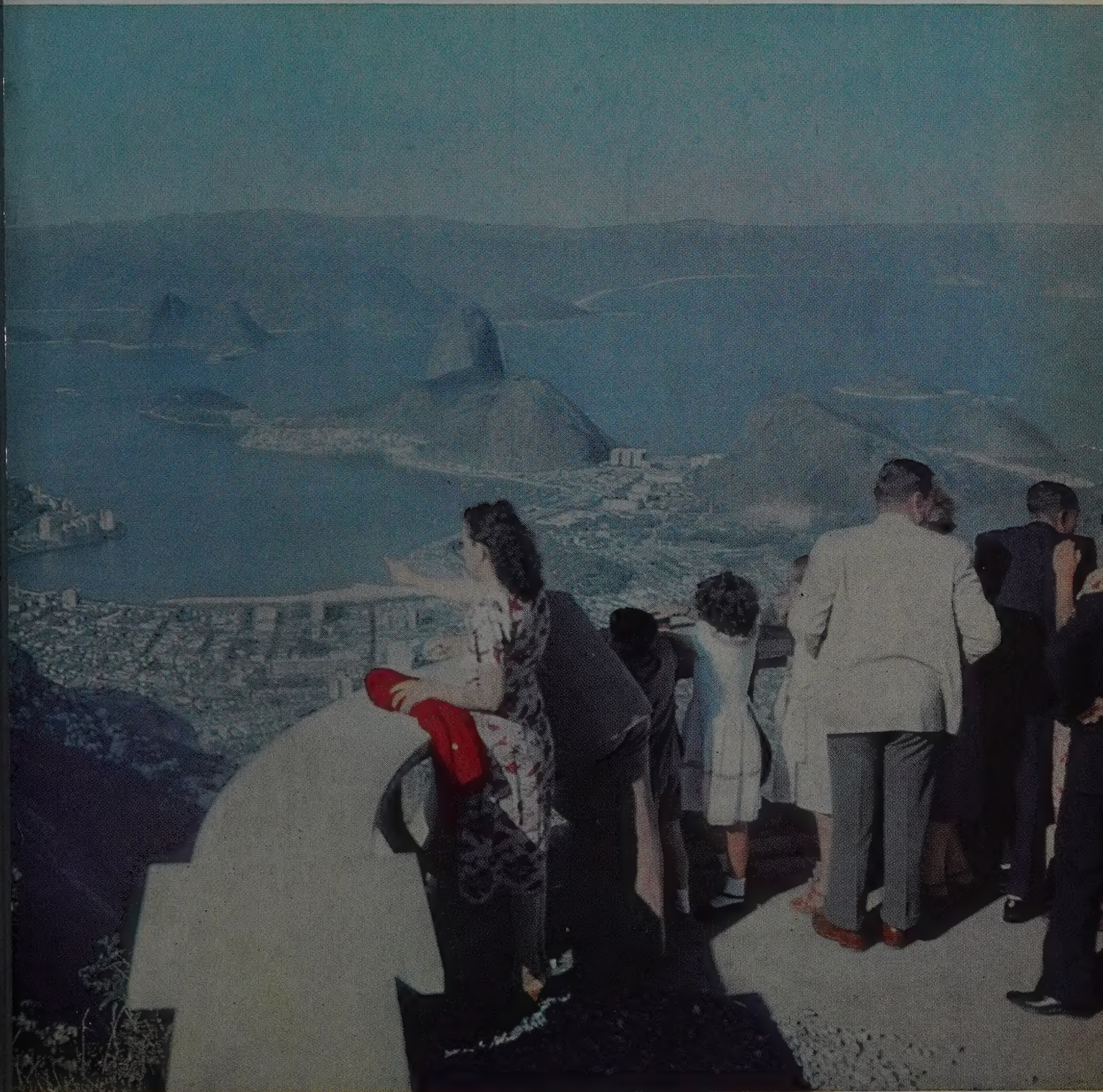
MARCH 1950 1/6

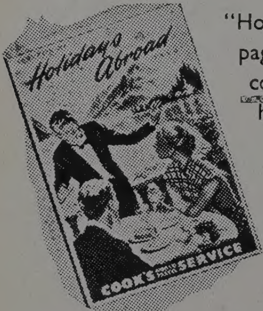
The GEOGRAPHICAL MAGAZINE



OTOR UNION INSURANCE CO. LTD.
All Classes of Insurance Transacted
10 ST. JAMES'S STREET, LONDON, S.W.1
MOTOR POLICIES

Well—that's settled!

I'm glad we sent for our copy of "Holidays Abroad." It has saved us such a lot of time—and bother—and last-minute doubts. Now we can lean back on Cook's and know that everything will be all right.



"Holidays Abroad" has pages of suggestions for colourful and exciting holidays to suit every taste and pocket. Send for your copy NOW—while you think of it!

COOK'S

WORLD TRAVEL SERVICE

Dept. HOL/22/AF, Berkeley Street, London, W.1, or branches. (Or any office of Dean & Dawson, Ltd.)

For Morning Freshness

Euthymol

TOOTHPASTE

FROM ALL CHEMISTS

A PARKE-DAVIS PRODUCT

Giraffes at Home

by R. H. FERRY

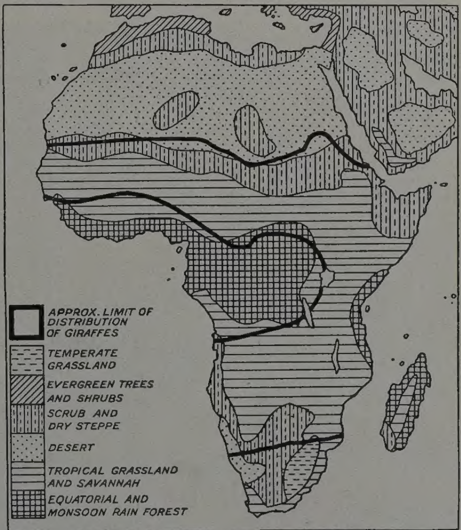
The following article is written from long experience and first-hand observation of giraffes in their natural environment. It is one of a series on the distribution of animals initiated in our July 1949 number by Mr G. S. Cansdale, Superintendent of the London Zoo, and edited by him

WHEN ancient travellers in North Africa first saw giraffes they took them for a cross between a camel and a leopard and called them camelopardus, a name which now forms part of their scientific name *Giraffa camelopardalis*. They are true ruminants, as can be seen clearly enough at the Zoo; as they stand peacefully chewing the cud a lump of masticated material goes down the long throat like a ripple while a few moments later another lump ripples up to the mouth for chewing. Zoologists place them somewhere between the deer with solid antlers cast every year, and the hollow-horned antelopes and cattle. The points on a giraffe—generally one pair but sometimes there is a second and smaller pair as well as a single central knob—are bony and covered with skin, and they are neither horns nor antlers.

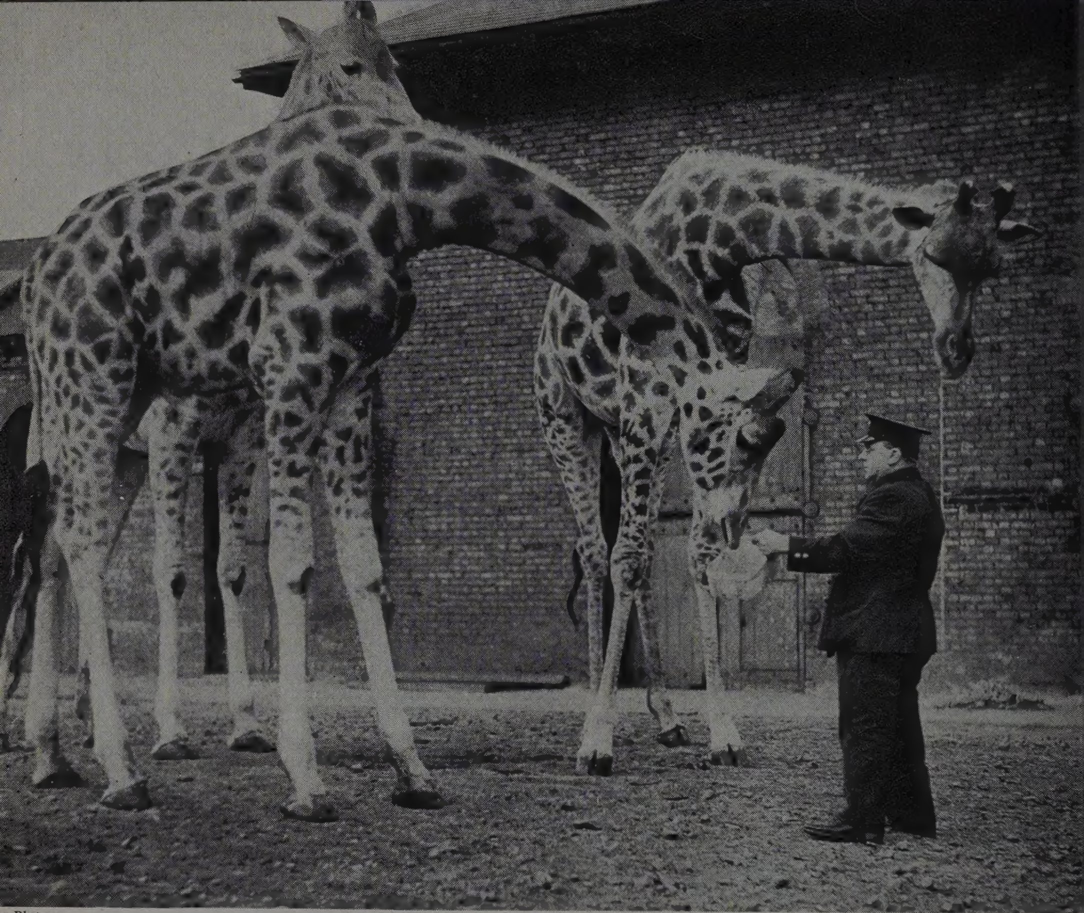
Forerunners of the giraffe are found in Pleiocene beds in many parts of the world, from South-east Europe through to China. In early historic times the giraffe had a distribution over most of Africa, except for the extreme north and south and the block of forest in West Africa. It survived in Algeria until about the 6th century A.D., when man exterminated it there, and its present-day distribution is from the Limpopo River in the south to the Sudan in the north. It seemed that the giraffe was the sole survivor of this widespread group but the year 1900 saw the discovery of the okapi in the Belgian Congo, perhaps the most exciting zoological event of the century. In appearance it is very different from the giraffe but many characteristics, such as horns, hoofs, tongue and teeth, show it to be quite a close relative. Both are browsers, with long prehensile tongues of great use in plucking foliage; but while the okapi is strictly confined to parts of the dense forest in the Belgian Congo, and has a dark brown coat and clear, horizontal, whitish markings on legs and hind-quarters that fit it perfectly for the dimness of the forest, the giraffe blends just as wonderfully into the thorny woodland and open plains which form its home.

The giraffe is essentially the same animal from one end of its range to the other, but there is considerable variation and some six or seven forms are recognized, though there is generally a grading from one into the next. In the more northern forms, particularly the variety called *reticulata*, the chestnut background is divided clearly into a network by narrow, pale buff lines; farther south these dividing lines become much thicker and darker and the whole effect is much more blotched. Giraffes are by far the tallest mammals now living, the bulls reaching 18 or 19 feet and the cows about 16 feet, but their general structure differs little from the ordinary quadruped and even the 5- or 6-foot neck contains just the same number of vertebrae (seven) as that of the hippopotamus which looks almost neckless.

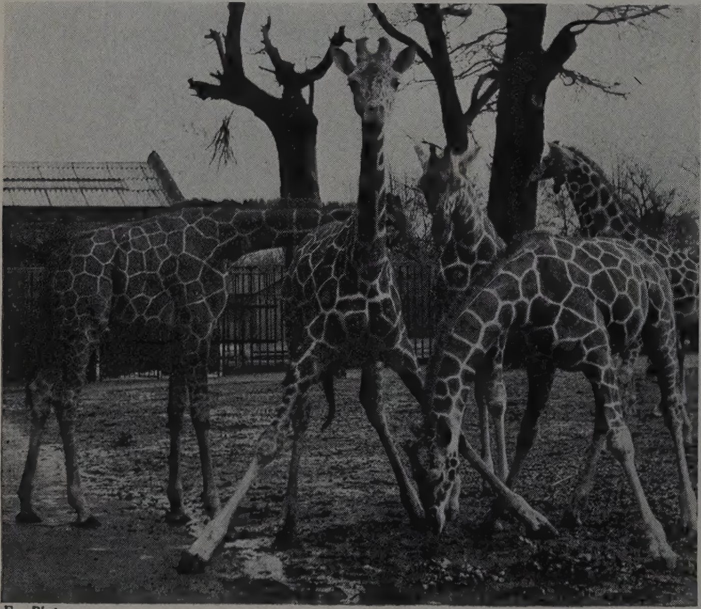
No creature fits better into the surroundings of open parklands and tall trees such as one sees on the Tanganyika and Kenya border. Giraffes have acute scenting powers and the high elevation of the eyes gives the animal ample warning of danger. Whereas elephants and hippos are notoriously short-sighted, giraffes can recognize objects half a mile or more away and probably have the


APPROX. LIMIT OF DISTRIBUTION OF GIRAFFES
TEMPERATE GRASSLAND
EVERGREEN TREES AND SHRUBS
SCRUB AND DRY STEPPE
DESERT
TROPICAL GRASSLAND AND SAVANNAH
EQUATORIAL AND MONSOON RAIN FOREST

A. J. Thornton



x Photos



Fox Photos

Varieties of giraffe differ considerably in their skin-patterns. Thus, in the case (above) *of the* baringo, *the lines dividing the chestnut background are very thick, making for a blotched effect, whilst the* reticulata *variety* (left) *has a network of thin pale buff lines. The lower group, destined for Phoenix Park, Dublin, are now at the London Zoo, in quarantine for a year before going where other ruminants might graze. The tallest mammals alive, giraffes must straddle to get their heads down to the ground* best eyesight of all big mammals.

Man, at any rate in the past, has been the giraffes' only real enemy. It is true that lions hunt them in troops when food is scarce but by reason of their speed and sloping shoulders the large carnivores find them hard to pull down. When other meat is procurable—zebra, hartebeestes and other large antelopes—lions do not greatly bother giraffes, neither does the lion like to go too far afield into arid and waterless country.

The question as to how closely giraffes can emulate camels and go without water has always been an interesting and controversial one. The authority Bryden stated that giraffes living in the neighbourhood of the Botletli River (Northern Kalahari Desert)—their only source of water supply—never drank there throughout the spring and winter months. And many natives and experienced hunters in South-West Africa have expressed the view that giraffes are quite independent of water in the dry season. It seems, however, improbable that such big animals, living mainly on leaves containing a minimum of water and without the camel's rather special physiology, could refrain entirely from drinking in an area where the sun temperature may reach 165 degrees F. In the Kalahari and elsewhere there are a great profusion of small wild water-melons miraculously and mercifully filled with juice which may help quench the thirst of desert grazing animals. Certainly giraffes are capable of withstanding long periods without water; they do not drink nearly so often as elephants, but like them they prefer to make a long trek to a distant pan or water-hole rather than drink too frequently at the same spot. Perhaps, too, the far wider range of which giraffes are capable in arid country holds the answer to those who believe in the total abstinence theory. A fleet-footed herd of giraffes would be quite able to trek forty miles to water and return to their home grazing site in the night, or the next day, without anyone being aware that they had been absent on a drinking jaunt. The fact remains that while giraffes are often seen in arid places sixty miles distant from water, they are rarely or never seen beyond this range.

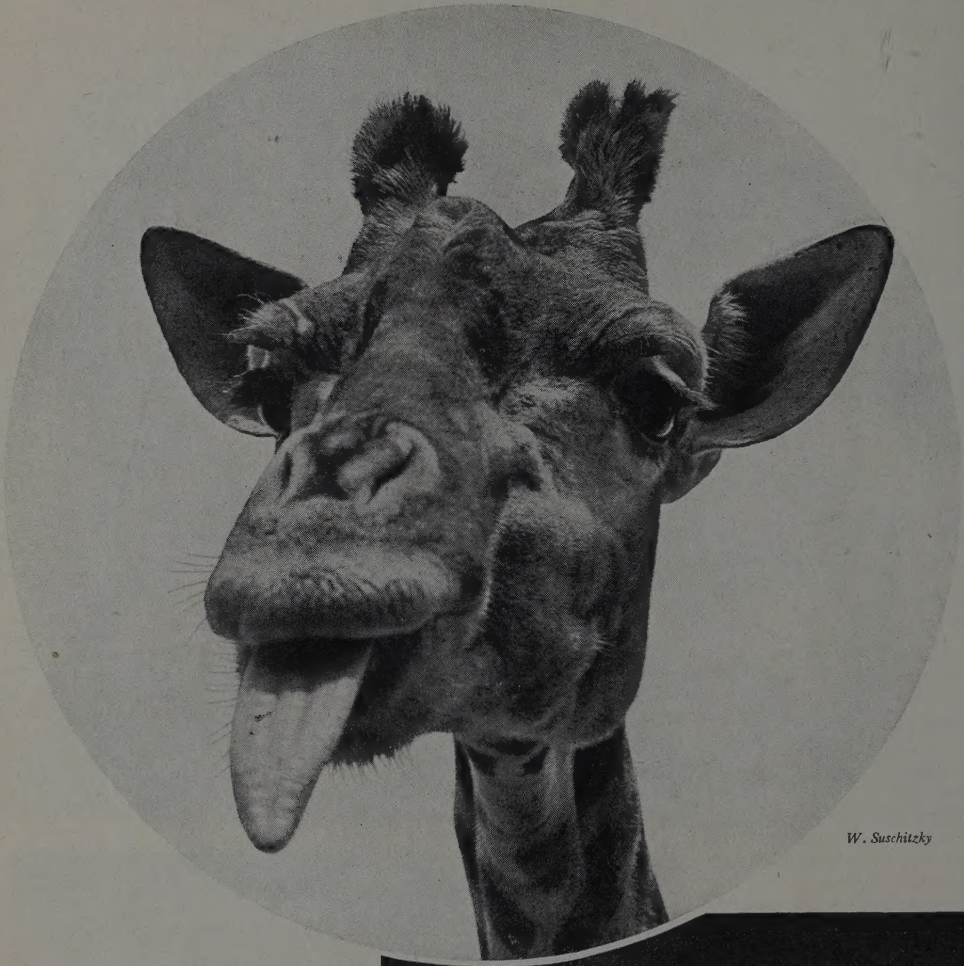
For extraordinary caution in drinking no creature excels this keen-nosed and long-visioned animal. Its precautionary habits, however, are strange and inexplicable, for lions do not attack giraffes at a water-hole, and no self-respecting hunter would shoot one in the act of drinking. Native poachers, no doubt, take their toll but these are not armed with rifles.

One requires luck, plenty of time, and patience to get good close-up photographs of drinking giraffes. As a general rule a scout first appears over the horizon and makes a slow approach towards the selected water-hole, but on reaching the brink it may well stand for hours before straddling wide its legs to enable its lips to touch the surface. Once in this position the animal is very vulnerable. The lowering of the scout's head is the signal that all is clear and the rest of the herd approaches cautiously. But on arrival it too waits to make quite sure that no mistake has been made. Other herds of zebra, gazelle, and buck seem so confident in the giraffe's judgment that they will often graze in the vicinity of drinking giraffes in open patches which they would not otherwise dare to frequent.

The caution of giraffes at water is in direct ratio to the density or openness of the country near the drinking site. They are far less

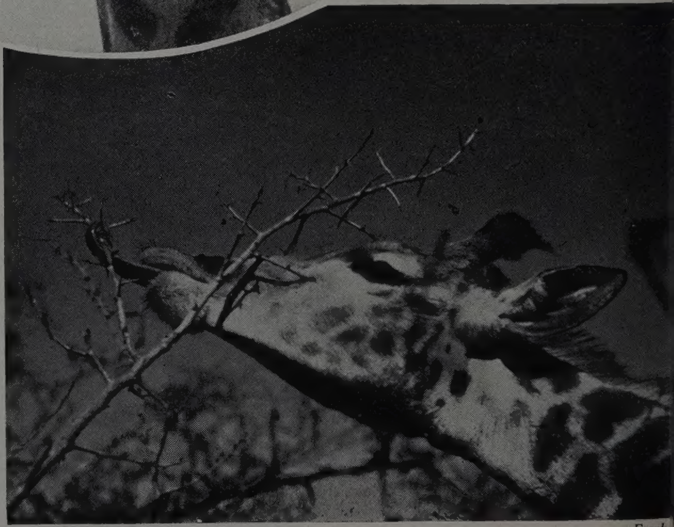
With colouring adapted to the dense forests of the Congo to which it is confined, the okapi differs from its only relative the giraffe in that only the males have two small horns

Zoological Society of London

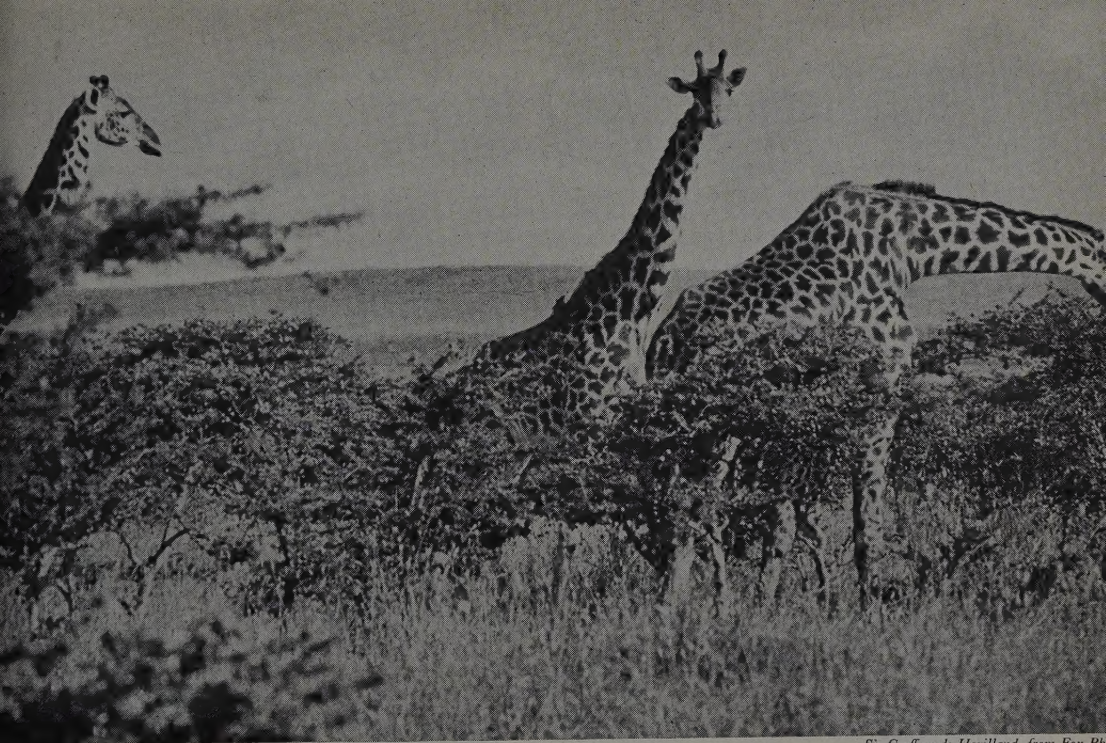


W. Suschitzky

The two 'horns' of the giraffe are skin-covered, and strictly speaking should be classed as neither antlers nor horns. The protuberance in front is almost another 'horn'. The bony knobs, all of honeycomb structure, serve to protect the relatively small brain. Both tongue and lips are prehensile, a necessity for such a voracious eater of foliage



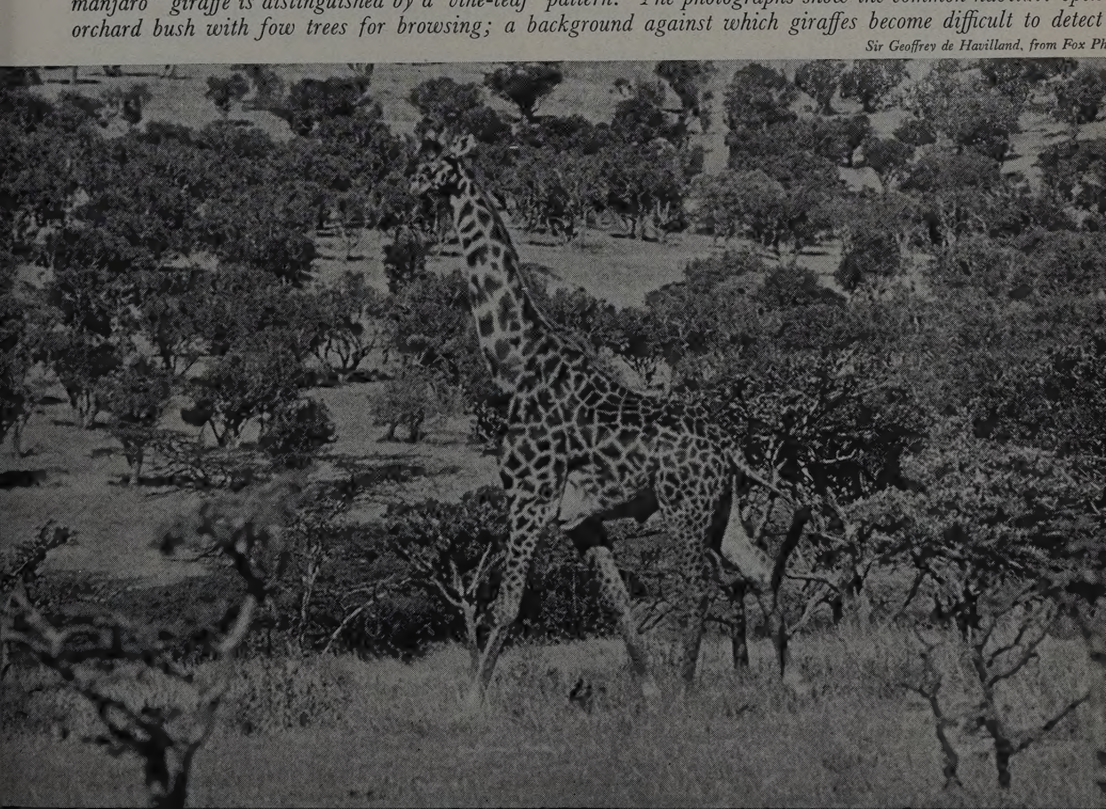
Frank



Sir Geoffrey de Havilland, from Fox Ph

Found in southern Kenya, particularly in the neighbourhood of Mount Kilimanjaro, the "Masai" or "Kilimanjaro" giraffe is distinguished by a 'vine-leaf' pattern. The photographs show the common habitat: open orchard bush with fow trees for browsing; a background against which giraffes become difficult to detect

Sir Geoffrev de Havilland, from Fox Ph



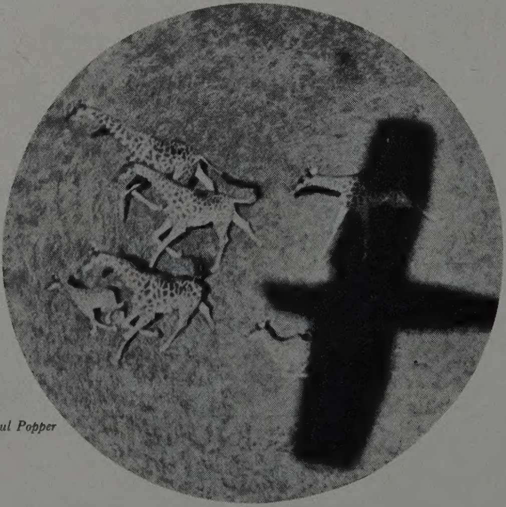
cautious where there is a good open view. This cuts both ways against a human observer for it is obviously easier to make an unnoticeable 'hide' in the bush than in open country. In any case it is advisable to make two hides so that the one down-wind can be utilized.

Herds of elephants can be very destructive to native crops but giraffes are inoffensive animals and to destroy them without real necessity savours only of sadism. There may be times, however, when a beast has to be shot for meat. It takes a very good horse to get to close quarters with a giraffe capable of galloping at 35 m.p.h. in open parkland; in heavily bushed country the task is more difficult, not to say dangerous and exciting. Even going all out, with tasselled tails elevated over their backs, the animals are able to duck their heads at precisely the right moment, and the sword-like thorns make no impression on their excessively tough hides. A rider chasing in pursuit runs a good risk of having his shirt torn off his back by a 'wait-a-bit' bush or his skull bashed in by an overhanging bough. It is rather strange that giraffes do not appear to butt with a swing of the head, for in defence of their young against leopards and lions they fight with their fore-feet. It is possible for a skilled rider to single out and conveniently 'edge off' a beast towards his camp before shooting it, but nothing will make a fleeing giraffe completely change direction against its will!

The Boers call the old males "stink bulls", and not without good reason; their flesh is strong and unpalatable. But the cow meat is very tasty, the grey tongue being the hunter's *bonne-bouche*. The females put on a lot of fat in the rains, the general time of calving, and appear to remain in good condition throughout the year. From shoulder to rump there is a layer of fat under the skin, often 1½ inches thick, which renders down to pure white lard invaluable on safari. The tough hide is easily hand-flayed and is used for ox *rheims* (ropes), whips, *sjamboks*, and soles for *veldtschoens*, and it was partly because of the good market value that herds suffered great destruction in the past, even to extinction in the extreme south. In recent years no wild animals have responded better to protection, and where it has been conscientiously carried out herds of giraffes have increased noticeably.

It is said that the camera does not lie and most photographs of grazing giraffes give the impression of 'invisibility'. But in open country, with the noon sun glistening on their backs, giraffes tend to become showy and markedly distinct; only when they stand still do they 'fade' into the background. Giraffes are frequently picked out by modern writers on natural history as perfect examples of camouflage colouring against enemies, but the beasts are in so little danger that such precaution on the part of nature seems almost superfluous.

Because of their great height, large eyes, and rarely bending necks, giraffes in a Zoo give the impression of aloofness and remoteness; yet viewed in a park setting of high trees and vast open flats, with mighty Mount Kenya towering up to the sky against the horizon, they lose their grotesque stiff-necked strangeness and attain more natural proportions, becoming sleek-coated thoroughbreds in a panorama of African paddocks.



Paul Popper

Village Life in Old Castile

by CHURTON FAIRMAN

SPAIN is geographically and socially the most isolated country of Western Europe, and the village of Quintanarraya is in the depths of that isolation. It lies in the department of Burgos in Old Castile, about one mile off the road from Huerta del Rey to Aranda de Duero and four miles from the former. I am not going to try, in this short article, to describe the district surrounding Quintanarraya: to correct a probable misconception must suffice. Castile is often thought of as a barren desert of stony soil and uninhabitable mountains. This is certainly true of some parts, but it is not the whole picture, for there are also magnificent pine-forests and fertile plains; and in one of these the village stands.

Life in the village has altered little with the passing of time and politics do not mean much to its inhabitants. Burgos declared for Franco at the start of the civil war and the people of Quintanarraya did not so much as see a uniform or hear a shot fired. Added to this the Castilians are a proud people, and since each man is sure that his village is the most important spot in Spain it is not surprising that the doings of a remote government in Madrid do not greatly interest them. Besides, like most peasant populations, they are strongly conservative in character, both in politics and in everyday life. They know little of other parts of Spain, and practically nothing of the rest of the world; although, now, conscription does take the young men away from their homes for a couple of years. I was the first Englishman to come to the district in living memory, and if I had been the first Chinaman I could not have aroused greater interest.

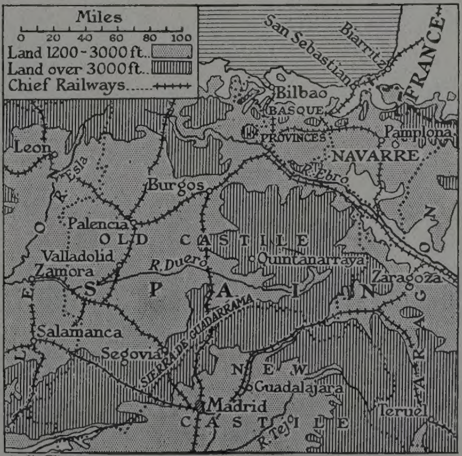
Let me introduce one of the villagers. His name is Francisco ("Quico" to all his friends) and it was in his house that my wife and I lived. He was born in the village and will almost certainly die there, like his father, grandfather and other generations lost to memory. Now a man in his middle fifties, he is very prosperous for he owns much land and is, besides, the village butcher. Indeed, so skilled is he in this craft that he travels to the local market town of Huerta del Rey each week on market day to kill there also; but unlike the traditional idea of a butcher he is small and quiet-spoken. His new stone house is large, and it needs to be, for he is the father of thirteen children.

Large families are common here, nine or ten children being quite usual; and they always seem happy even if rather ragged by English standards. Only one fact about them worries me: the total lack of dental services. Poor little Aniana, for example, youngest but two in Francisco's family and a very pretty child, is already losing all her front teeth through decay. However, this is merely looked on as bad luck; and an old man, after I had introduced him to my wife, stared hard at her mouth and remarked: "You are lucky, she has kept her teeth."

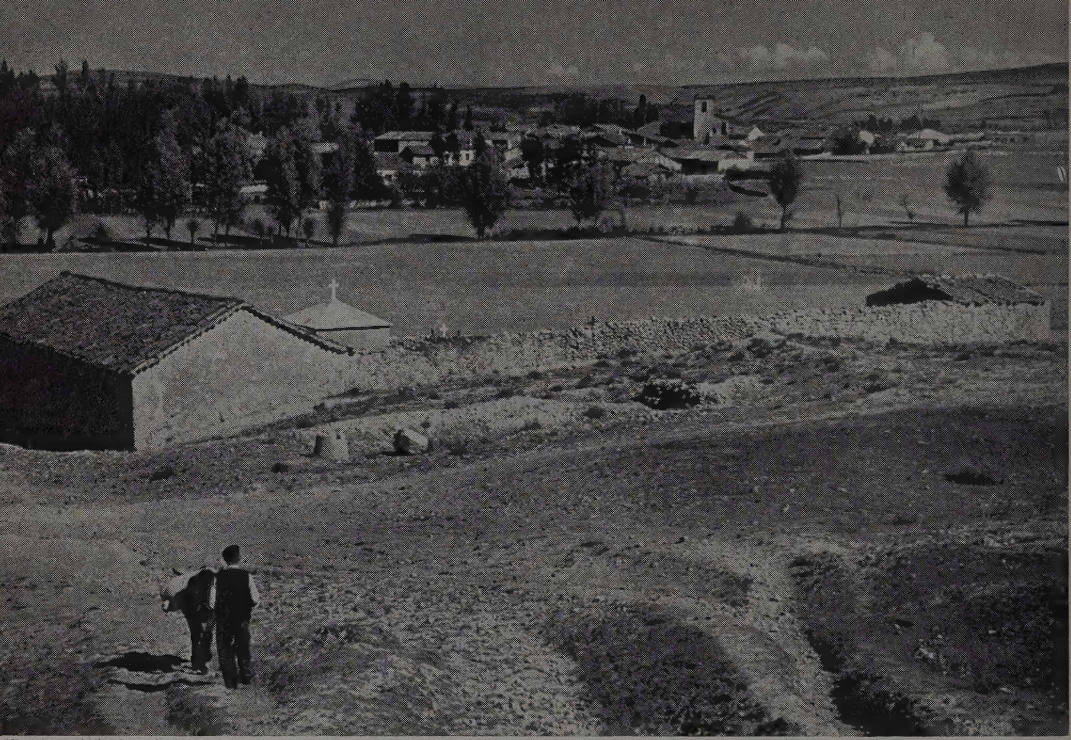
You must not think from this that the Castilians are a rude people, far from it. They are exceedingly polite, but once you are accepted as a friend they are absolutely candid with you and never conceal their opinions.

In these villages the family is a far more practical unit than it is in England and in Quintanarraya there are only some twenty families to make up the total population of five hundred. Owing to the shortage of tradesmen each household must be able to supply its own wants. This extends from building your own house down to spinning the wool off the backs of your own sheep.

Almost all the houses are two-storied, and the usual arrangement is to have the stables on the ground floor and the living-rooms above. The only other radical difference between these houses and ours is their complete lack of sanitation, and I mean

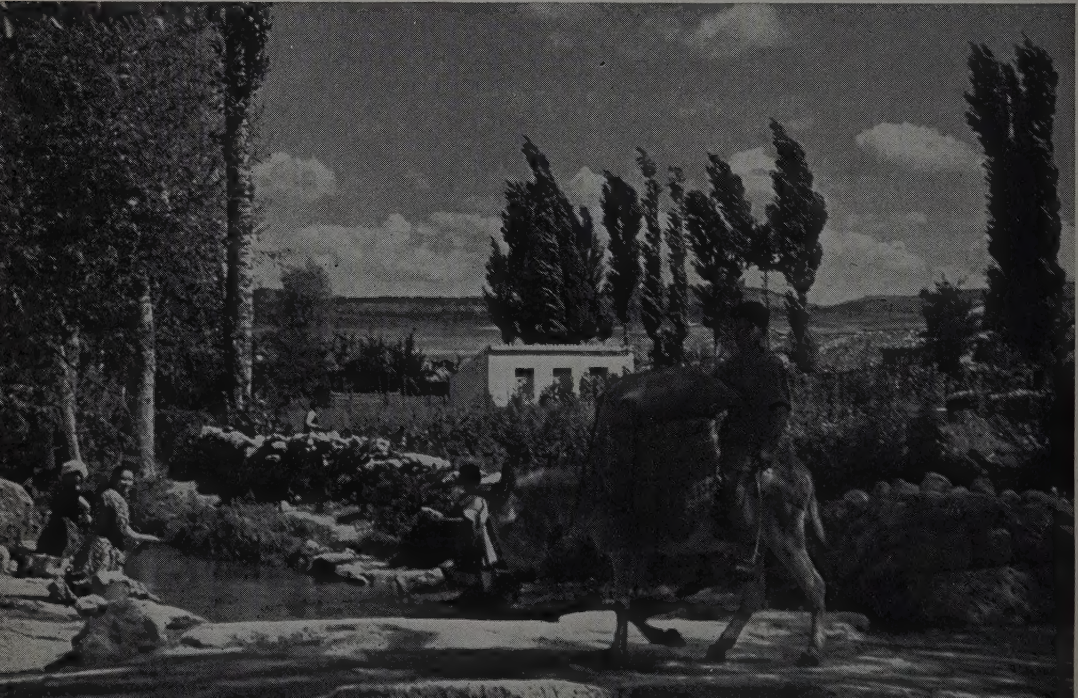


A. J. Thornton



All photographs by the author

(Above) *This is how Quintanarraya appears when you come by road from Hinojar, as the man and his donkey have just done. In the foreground is the graveyard and its chapel.* (Below) *To go from the village to work in the fields you must cross a stone bridge over a mill-stream, where women do the family washing*



(Above) *In Quintanarraya's main street there is always time to have a chat. The village houses contras with those* (below) *of Huerta del Rey, which run to three storeys, as befits a market town that holds ar annual bullfight. The stream is used for washing clothes and as a watering place for mules and donkey.*

complete. I find it quite impossible to describe how this difficulty is got over without risking indelicacy, but you must take my word for it that the houses are spotless and perfectly wholesome.

The rooms might seem rather bare to strange eyes for there is never a superfluity of furniture or ornaments. Walls are whitewashed, and floor-boards are scrubbed to an unbelievable cleanliness.

Bed-frames are one thing that is almost always imported from the towns, and rather flashy stainless steel ends are now thought preferable to the more familiar brass and iron variety. Mattresses, however, follow a more traditional pattern, being stuffed with raw sheep's wool, usually still on the skin. I may have been mistaken but I think it must have been these mattresses that harboured the small members of the animal kingdom that made my first nights in the village so restless. But one can learn to sleep through anything. Flies are the greatest pest, and during the daytime the village presents a particularly sleepy appearance owing to the fact that most doors and windows are shuttered to keep out both them and the heat.

Quintanarraya has one advantage over the other small villages round it. It has its own electric light system. This is operated by Marcial the miller who runs an ancient dynamo off his mill-wheel, though of course only in the evenings. The current thus generated is, however, so weak that it only allows each house one 25-watt bulb, with the result that everyone still uses oil lamps as they have always done; but, as Francisco's wife Casimira said to me, "We must move with the times".

As I mentioned earlier, building a house is a private problem, whether it is a case of a fresh start altogether or merely of adding another floor. There are neither architects nor builders available. Each family designs and builds what it needs itself with no outside help, except for that of a few friends. However, in almost every village there is somebody like José, Francisco's brother-in-law, who is an expert carpenter and joiner, and who can, if the need arise, be relied on to see that doors fit and that windows really shut.

For barns and outhouses, and, amongst the poorest families, even for living-rooms, mud-and-straw bricks, exactly the same as those made by the ancient Israelites in Egypt, are still used. These are easily made by anyone who needs them, the mud and straw being mixed by hand, forced into rough moulds and then turned out to bake in the fierce sun. These bricks, though they crumble easily under pressure, stand up to the weather surprisingly well.

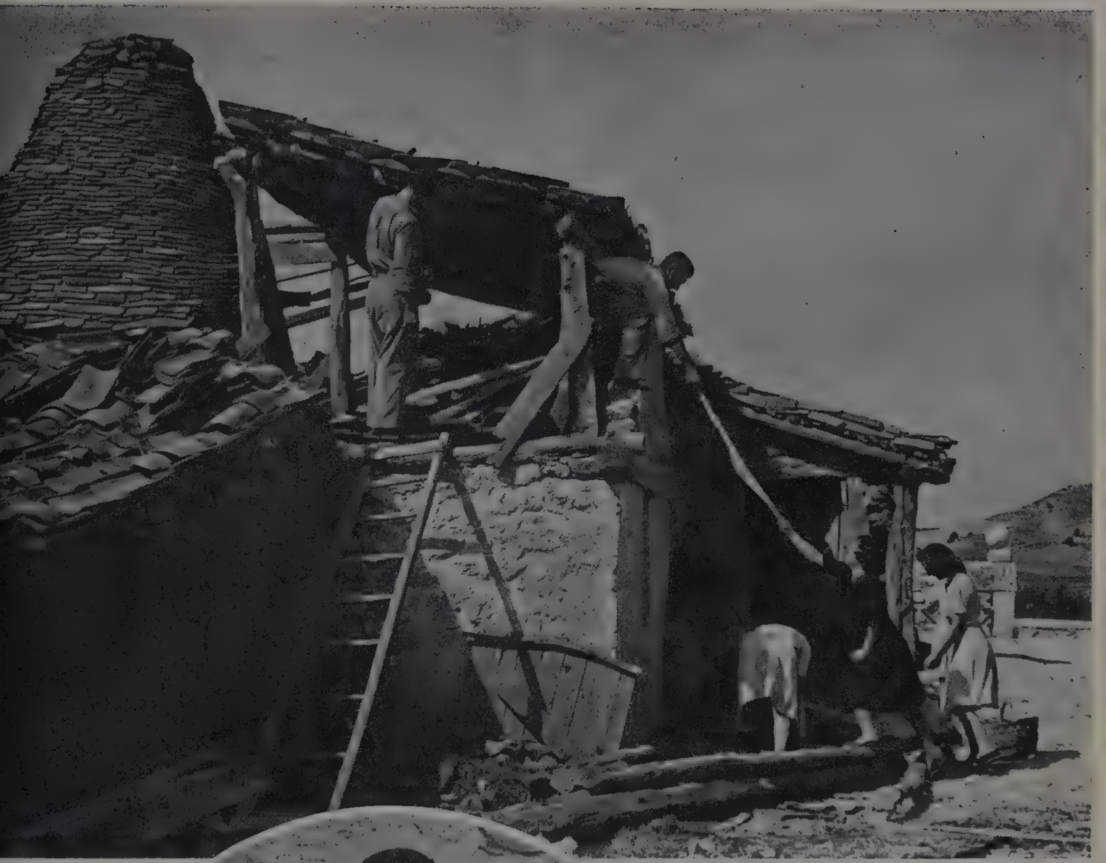
One other important feature of village architecture must be mentioned, the *bodegas* or wine-cellars. Wine is of the utmost importance in the village, as there is virtually no drinking-water available, and its storage is a matter of great concern. Without the advantages of refrigerators or ice-boxes there is no protection from the sun anywhere except underground, and, as the houses have no foundations, and therefore no cellarage, special wine-stores must be made. These are really just deep caves cut in the hard earth or rock and entered by a flight of steps sometimes leading as much as twenty feet below ground-level. Every family has its own bodega and the entrance to each is guarded by a massive door, locked with a key some six inches long. In Quintanarraya the only suitable place for these cellars was found to be a quarter of a mile outside the village, just beyond the tiny graveyard, and the bodegas themselves look for all the world like a row of ancient tombs.

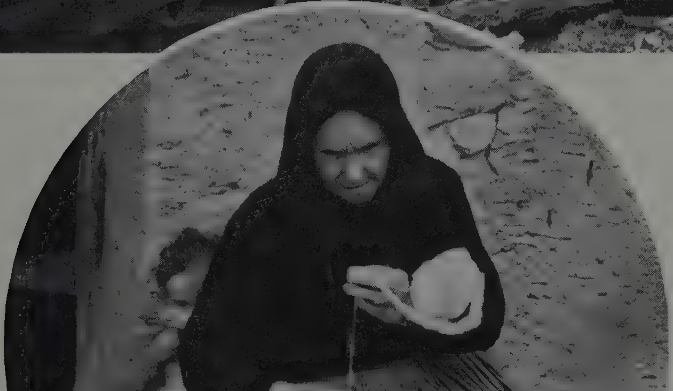
All the men in Quintanarraya are primarily farmers, and when I speak of Marcial as a miller or Francisco as a butcher I am only referring to their secondary occupations. A man's wealth and importance are judged by the amount of land he possesses, and land is the most important factor in all village life.

One day as I was walking through the village with José, the carpenter, I asked him whether he employed any labour to work on his land. "Never", he replied. "No one has enough money to pay others, each must work his own fields. That is why it is good to have many strong sons." And, on my further enquiring, he told me how in the big families each child is detailed off to look after some particular sphere of activity. Thus one son is a shepherd, another a ploughboy and a third looks after the oxen and mules, while the girls divide the housework between them.

As we talked, we were walking right out of the far side of the village and I saw that the first open field, several acres in extent, was covered with piles of corn. José went on: "In this field all the families come to do their threshing; each one of these piles of corn belongs to a different man. We mostly use machinery", this, pointing to some very old-fashioned, hand-turned threshers, "but the poor must beat the chaff from the grain with flails"; and, for fear I did not quite understand, he imitated the action.

Later, while on a visit to the neighbouring village of Hinojar, I saw how the Castilians





The villagers of Old Castile enjoy a very high degree of self-sufficiency. Thus when (above) *one wants to add an extra room to the home, the whole family sets to, without builders or architects. Similarly,* (left) *the old lady is spinning wool which she herself carded off her husband's sheep; she later knitted it into a pair of socks for him. Simple weaving does take place in the village, but I found that the men habitually wore corduroy*

Late August and September is threshing-time, and in Quintanarraya (above) *each family has its own pile of grain or chaff. We are looking past José the carpenter at the two eldest sons of Francisco the butcher, who are loading the cart.* (Below) *The chaff once brought home, a villager stores it safely in his barn*

deal with the straw after the grain has been removed. It is not stacked, as over here, but cut up into very short lengths which are then stored in barns. The method of cutting is rather curious. First the straw is spread on a patch of level ground. Then the farmer brings out a large, flat, wooden raft or sledge, the under side of which is thickly studded with sharp flints. This is coupled to a pair of mules, and, with the farmer standing on it like a surf-board rider to give extra weight, the mules are driven round and round in circles while the sharp flints cut the straw to pieces. Naturally this is very popular with the children who are always asking for rides.

You may notice that I said that mules pulled the sledge and not horses. Horses are very rare among these people, although they are common enough in other parts of Spain. Here there are only mules, donkeys or oxen, either for riding or drawing carts.

Riding on a donkey with no saddle is definitely an acquired taste. My first attempt was when I went out for the morning with Angel, the eldest son of Marcial the miller. On our return journey Angel asked me to carry, balanced in front of me, a huge bundle of vegetables that we had picked, tied together with a piece of rope. All went well until we came to a wide stream that we had to ford. Angel crossed first and I stupidly imagined that my donkey would follow him over. It almost did. But, just as it reached the farther bank, it took it into its head to examine a tempting bunch of thistle. In a moment it had strayed off the safe crossing and was floundering up to its belly in thick mud. At the same moment I found that I was also in the mud, struggling to keep my camera dry and not lose the precious vegetables, while Angel laughed himself almost sick on the dry bank. I got my revenge a few moments later when I took a picture of him trying to pull the donkey out of the mud. Fortunately it was soon salvaged, none the worse for its experience.

During this little adventure Angel was forced to wade into the stream to lift the donkey's hindquarters on to firm ground and, as he did so, he remarked: "This is the first time I've been in water for a fortnight"—for it must be admitted the Castilians do not go in for daily baths. But then, would you, if you had to carry every drop of water that you use in your house from a spring a quarter of a mile away? This again may sound a trifle insanitary, but since the womenfolk are perpetually washing the family clothes, and since the Castilians are by nature a clean people, it is I assure you a far more pleasant experience to travel in a crowded Spanish train than in a London tube during the rush hour.

A most noticeable characteristic of the Castilians is their extreme hospitality. On one occasion my wife and I were invited to go over to the neighbouring village of Hinojar with the dual purpose of attending a Requiem Mass for a relation of Marcial's, who died last year, and to visit some who were still living. The fact that I should see a great curiosity, a horse, was thrown in as an extra inducement. We began our social round as soon as Mass was over. No sooner were we in the first house than we were asked to take a glass of *vino rancio* (a thick, sweet wine). This was followed by a second, third and fourth, before we moved on to the next house. Here, as far as I was concerned, the performance was repeated, for while my wife stayed with the womenfolk I went off with the men to visit a special bodega that had been cut

Angel trying to rescue his foundered donkey from the mud

under one of their barns, a most unusual place for it. There the owner, Marcial and I sampled at some length this year's vintage. Eventually we got away, and the whole process was repeated at another house about which, not very surprisingly, I don't remember much. You must not think from this that we had come to Hinojar just for a drinking-bout; it was only an example of what can happen subsequent to a casual visit to enquire after friends—and we had not finished yet. I do remember the last call, however, for there no time was wasted in talking and the whole party was taken straight down to the family bodega. Here we had a full meal of white bread and endless lumps of smoked ham washed down with yet more wine. The journey home is a blank.

This hospitality is rarely shown to total strangers and, in fact, sometimes the reverse is so much the case that foreigners come away from Spain with rather unpleasant memories; but I have found that this is usually because the visitor has made the great mistake of adopting a condescending attitude towards the Spaniards just because they seem poorer than himself, and has failed to treat them as his equals.

Once you are accepted, there is no end to their kindness which can even prove rather awkward, as on the occasion when my wife and I were just sitting down to supper with Marcial and his family and one of Francisco's sons arrived to announce that it was their turn to have the honour of entertaining us. He persisted so strongly that we had to rise from the table, leaving the meal untouched, and go over to the other house.

You will remember that Francisco has thirteen children, of whom ten were then living at home. This naturally made too big a party for one table, so the family was divided into what might be called a senior and junior mess. Francisco, his wife Casimira and the three eldest children made up the first, and the rest of the family, presided over by the second eldest girl, made up the other.

The method of eating is curiously like that of the Arabs. One large dish is placed in the centre of the table and everyone dips into it. The only cutlery used is one's own penknife and, when unavoidable, a spoon. Either of these is held in the right hand while the left grasps a large piece of white bread, which is used to catch any stray gravy and is then eaten. Plates are rarely used at all. The wine

To see this great curiosity, a horse, I had to walk three difficult miles in torrid heat in an exceptionally hot summer. The rider is the head of the family by which the horse is collectively owned, whilst on the left is Marcial, whose mill-wheel supplies Quintanarraya with electric light

Having seen the horse (opposite) *we went on a social round; and I dimly remember that the last house and* bodega *we visited was that of Marcial's cousins. The wild man with uncut hair is myself*

which accompanies every meal is served in a *porron*. This is a glass bottle that looks rather like a chemical retort and is furnished with a long thin spout from which the wine is poured straight down the throat. This operation, which is done from a distance varying from an inch to more than a foot, depending on the skill of the drinker, removes the need for glasses and also insures that no flies get in the wine.

Meal-times were also strange for us. They began with breakfast, a large meat meal of two courses, at 8 a.m. Next comes lunch at 2 p.m. and lastly supper at 9 p.m. These times may not seem so strange, but "things aren't always what they seem" and Spanish country time has a distinct difference to it. The principle is simple: each morning everyone sets his watch to 6 a.m. as the sun rises, and alters it again the next day. This puts the country folk about two hours behind the official Spanish time in summer, and produces the result, for visitors like myself, of having lunch at 4 p.m. and supper at 11 at night. As I could never quite face the meat breakfast I used to find it a long wait till lunch.

I said earlier that these people are very conservative in their habits and meal-times remind me of a good example. One family has a tradition of not going to bed early, and each night, after supper, they continue to sit round the table dozing, talking, and even falling quite asleep with their heads in their hands. Nothing will induce them to go to bed before midnight, although they will be up by dawn the next morning, simply because this is a family custom. They also regard the customs of others with respect and if, in answer to any question about my clothes or habits, I replied that so-and-so was the custom at home, this answer was felt to be quite satisfactory, however surprising they might find it.

Though they live simple lives, these Castilians are not a backward race just emerging from barbarism, and in matters of character and conduct their standards often more than equal our own. Now that I am back in England, living in the world that seemed so miraculous to them, I can't help feeling sometimes that they live a saner life than we do, and that their freedom from complication and frustration more than makes up for the rather dubious advantages of our scientific achievements.

Brazilian Cycle

by KENNETH G. GRUBB, C.M.G.

Mr Grubb has travelled in all the Latin-American republics and is the author of many works on them. As Secretary-General of Canning House, the Latin-American centre in London, he is actively concerned with promoting cultural relations with Latin America and the study of its problems

A CYCLE of Brazil is of different tempo from a cycle of Cathay. This age, we are told, is the Age of Progress, and in Brazil progress is more like a kangaroo than a cart-horse. It leaps. The railway age effectively took root in São Paulo State. Elsewhere, it has been a case of "out of the ox-cart into the aeroplane".

The symbol of this progress is the skyscraper. In the New World the skyscraper habit is infectious. The great cities of Latin America have adopted it. In Brazil, not only Rio de Janeiro and São Paulo, but a dozen larger towns, have fallen for it—or, perhaps, risen to it is a more appropriate colloquialism. What this article attempts is to look up at this skyscraper civilization of the south, and then down to its foundations in the patterns of a century ago. The truth may be that the new achievement is not, in fact, built upon these foundations, except to a slight extent. It arises from the impact of quite different forces, and a different outlook on national destiny. This is what some Brazilians argue; but in the experience of nations, destiny is not divorced from heritage. A nation sows its future, but reaps its past.

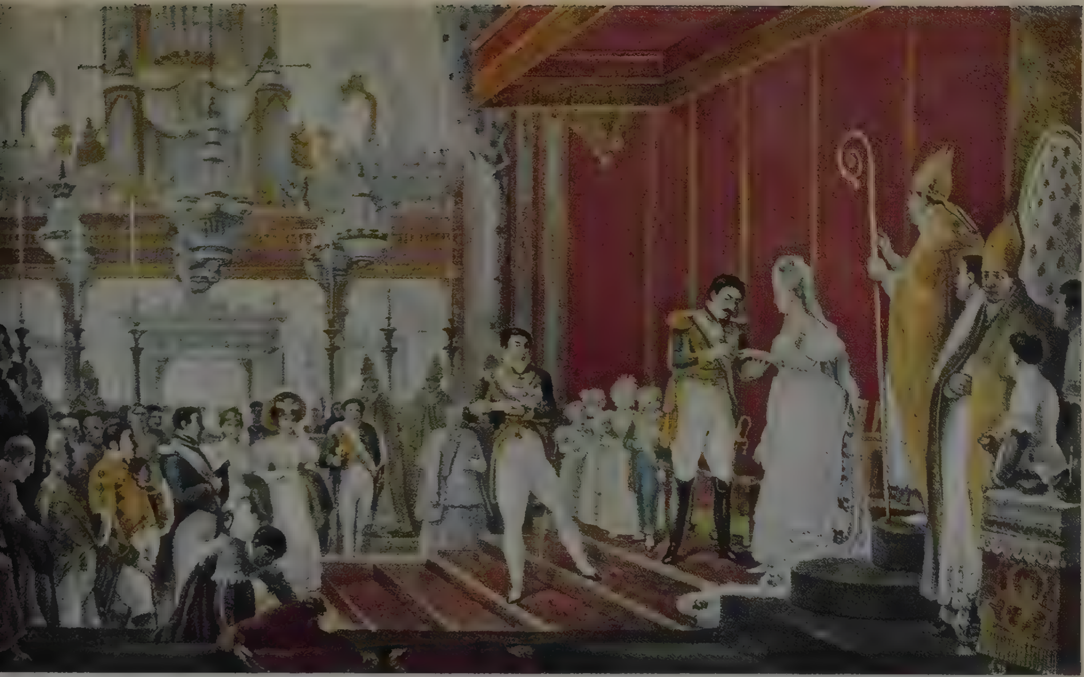
The first six pictures that illustrate this article are from the brush of Jean-Baptiste Debret. What was a French artist doing in Brazil in 1816? The country's ports were closed to the entry of foreigners until 1808, and being almost unknown it would not be expected to offer much to European artists. But the Portuguese Ambassador in Paris was the subtle and insinuating Marquis of Marialva, and he knew M. Lebreton, Secretary of the Faculty of Fine Arts in the French Institute. The end of it was that a 'mission' of artists from France arrived in Brazil, under the leadership of Lebreton himself. Among them was Jean-Baptiste Debret, a painter mainly of historical scenes. That it was possible to get together a group of this kind was partly due to the uncertainty of French politics and the future of France.

Certainly, devotion to art alone would never have been sufficient to impart a migratory propulsion to the person of Debret. More simply, he would not have gone just to paint. He was a great admirer of Napoleon, and Waterloo inspired him to look abroad. Once he had made up his mind, he threw it into his task. For fifteen years he taught and painted and worked to establish an Academy of Fine Arts in Brazil. After he had returned to Europe he published his *Voyage Pittoresque et Historique au Brésil*, copiously illustrated. Modern Brazilian critics consider him exact, faithful and conventional, endowed with slight emotional power. But there can be no doubt that what he saw he drew, and a comparison between Brazil of today and Brazil of yesterday cannot do better than start with a glance at his work.

Let us first consider some general impressions.

Quite a few people have heard vaguely of the modern architectural development in Brazil, of the Ministry of Education and Health, a vast building of glass and concrete supported on pillars, of the Avenida Rio Branco in Rio de Janeiro, or the Viaducto de Chá in São Paulo, of the hotels of Copacabana, or the motor road that winds up from Rio to Petropolis, of the massive hydro-electric works at key points in the States of São Paulo and Minas Gerais, of the new steel plant at Volta Redonda, and . . . but the list as a list means little. What are we to make of this? Are these things merely high points of achievement with good propaganda value, or are they typical of a nation-wide development? It is not easy to answer this by a simple choice of the alternatives.

There is nothing particularly significant in building a tall block. Consternation was long ago caused in Mesopotamia by someone doing the same at Babel. It seems to be a popular enthusiasm just now, and makes for a certain physical convenience in business and social relations. There is much to be said for it where the landscape is flat as in Buenos Aires, or even on a relatively level plateau such as at São Paulo. Rio de Janeiro gains little. The splendid amphitheatre of mountains in which it stands had better have been left unspoiled. A skyscraper in Rio seems to be a rather



Jean-Baptiste Debret

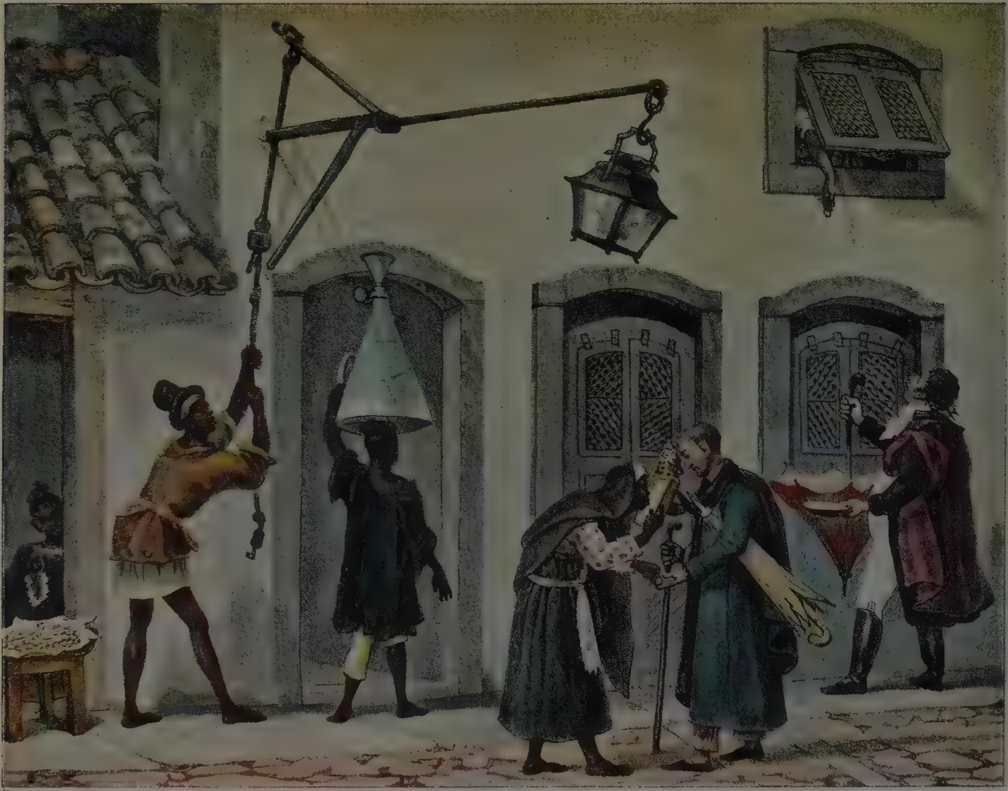
The marriage of Don Pedro I, first Emperor of Brazil, to Princess Amélie de Leuchtenberg in 1829

insignificant attempt to improve on the designs of nature. If the implications were not unkind, it could be said that in Rio the skyscraper falls flat.

But this is a digression. The contrast between the two Brazils is so great that the question has to be pressed more seriously. Let there be no mistake: something phenomenal has happened in Brazil. This passion for architectural and industrial development is largely a matter (except in São Paulo itself) of the last twenty years. It is a passion for construction. Such a pace of development would have been inconceivable in the day when Debret lived. Man had not then awoken to the most surprising of his modern convictions, namely, the assurance of his ability to control his environment and master his destiny. Nor did he have the tools. Perhaps Russia was the first modern nation to tackle this task of material construction, and to compress a century into a decade. Brazil had seen the vision, but its fulfilment needed technicians and money. It took time to produce the former, and a war to supply the latter.

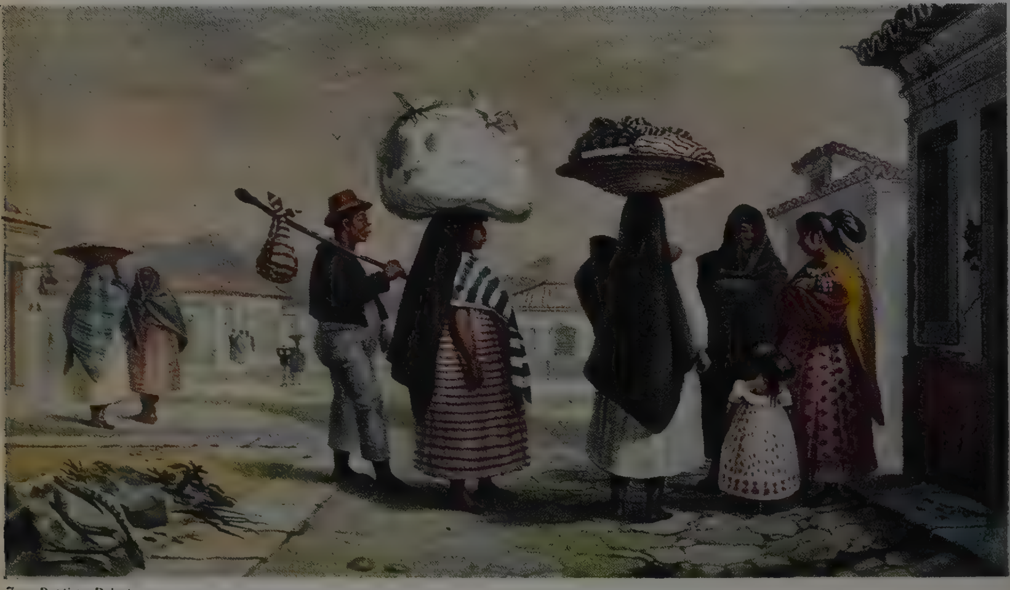
Even up till recently, the spirit, although not the actual scenes, of Debret's easy-going times could be traced in Brazil. I have spoken to a man who was born a slave. I have had to acquire a crew for travel in the interior by 'buying' it from its previous owner. The common attitude to social problems was pure fatalism. A woman said to me once: "I have thirteen children: six are living in heaven; seven are dying on earth." Or again, most people saw no merit in energy and hard work to dominate one's environment and ease the common drudgery of living. I asked a fisherman on the island of Marajó in the estuary of the Amazon what he did for a living. "When it is day, we watch the tide; when it is night we sleep." "So you do nothing?" "If you like." "And what do you do when you get tired of doing nothing?" "We take a rest." Marajó is perhaps one of the remaining strongholds of a feudal system in its old Brazilian dress where a few owners farm vast cattle-ranches.

Character is not radically changed by exchanging a bungalow for a flat, and it is a deceptive and dangerous error to suppose that it is. But it is certainly affected. The easy and spacious habits of Brazilian life under the Empire in the 19th century are passing. Courtesy has not yet passed, for courtesy is instinctive to the Brazilian people. But when men jostle in vast blocks of apartments, jostle in large offices, jostle in super-

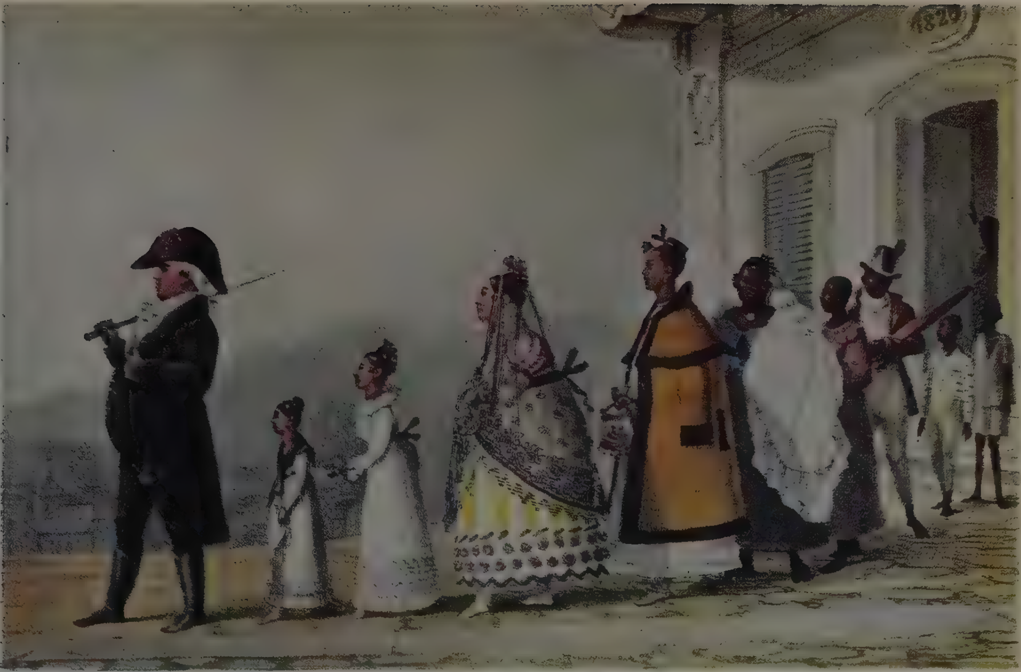


Jean-Baptiste Debret

(Above) *First chores of the morning.* (Below) *Indian country-women look for work as laundresses in Rio*

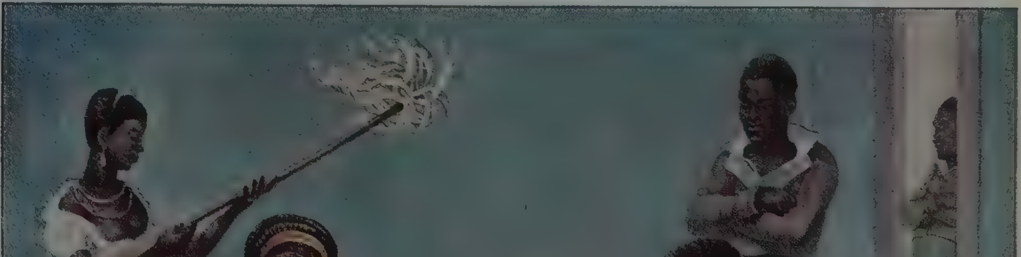


Jean-Baptiste Debret



Jean-Baptiste Debret

(Above) *A government official sallies forth, with his family in procession behind.* (Below) *Dinner-time*



Jean-Baptiste Debret

Jean-Baptiste Debret

(Above) *Brazilian characters who have almost vanished: dandified Gauchos, with lassos and* bolas

hotels, jostle on the beach and jostle in the sea, a certain dignity and poise seems to disappear from our common life, and only the dust and heat remain. Perhaps this is inevitable; and, indeed, it is not a Brazilian problem alone. To rub shoulders is not to join minds. But the modern revolution of manners has come to Brazil, and come to stay. It is a fundamental revolution of society. When Brazil achieved independence it did not matter a whit to the peasant in Goias. Put down a new town or two there, which is happening today, build a dam, bring in fertilizers and soak the place in D.D.T., and something has been done which deeply concerns farm and farmer.

But look at the dignity of Debret's scene of the imperial marriage! The lady, we are told by Varnhagen the historian, was an archduchess, indeed, a princess "of much erudition and virtue", qualities which are as meet to be combined in queens as in kings. Something of this dignity is also conveyed in the quaint picture of a government official starting off in procession with his family, with a slave or two, possibly on their way to Mass. But outside and not far outside of the massive gates of the palaces and mansions with their company of statesmen, bishops and retainers were the beggar and the leper.

Debret was very conscious of these other and 'lesser breeds', but he was also conscious of something else, namely, an underlying unity of Brazilian society. Native Indians, Negroes and the Portuguese mingled together. Virtual polygamy, miscegenation, the rural patterns of civilization, and the sheer necessity of combining to subdue a wilderness brought men of all ranks and orders together. Earlier there had been the wild conflicts of the actual exploration, but by Debret's time social institutions had taken well-recognized forms. Perhaps it is due to the heritage of this social homogeneity that so vast a country as Brazil has managed to hold together until the era of modern communications.

Of Debret's charming pictures, "Dinner-time" is the most suggestive to the reader of Brazilian history. The gluttonous young lord of the Big House, his comely wife playing with the slave children, as a man fondles a friendly spaniel, and the slaves themselves in attendance are directly reminiscent of that combination of patronage, selfishness and kindliness which were part and parcel of this curious civilization.

Gilberto Freyre, a modern Brazilian sociologist, has written a full-length study of these features of Brazilian society, translated by Samuel Putnam under the title of *The Masters and the Slaves* (Alfred H. Knopf, New York, 1946). He has a paragraph which might almost have been written as a comment on this picture of Debret's:

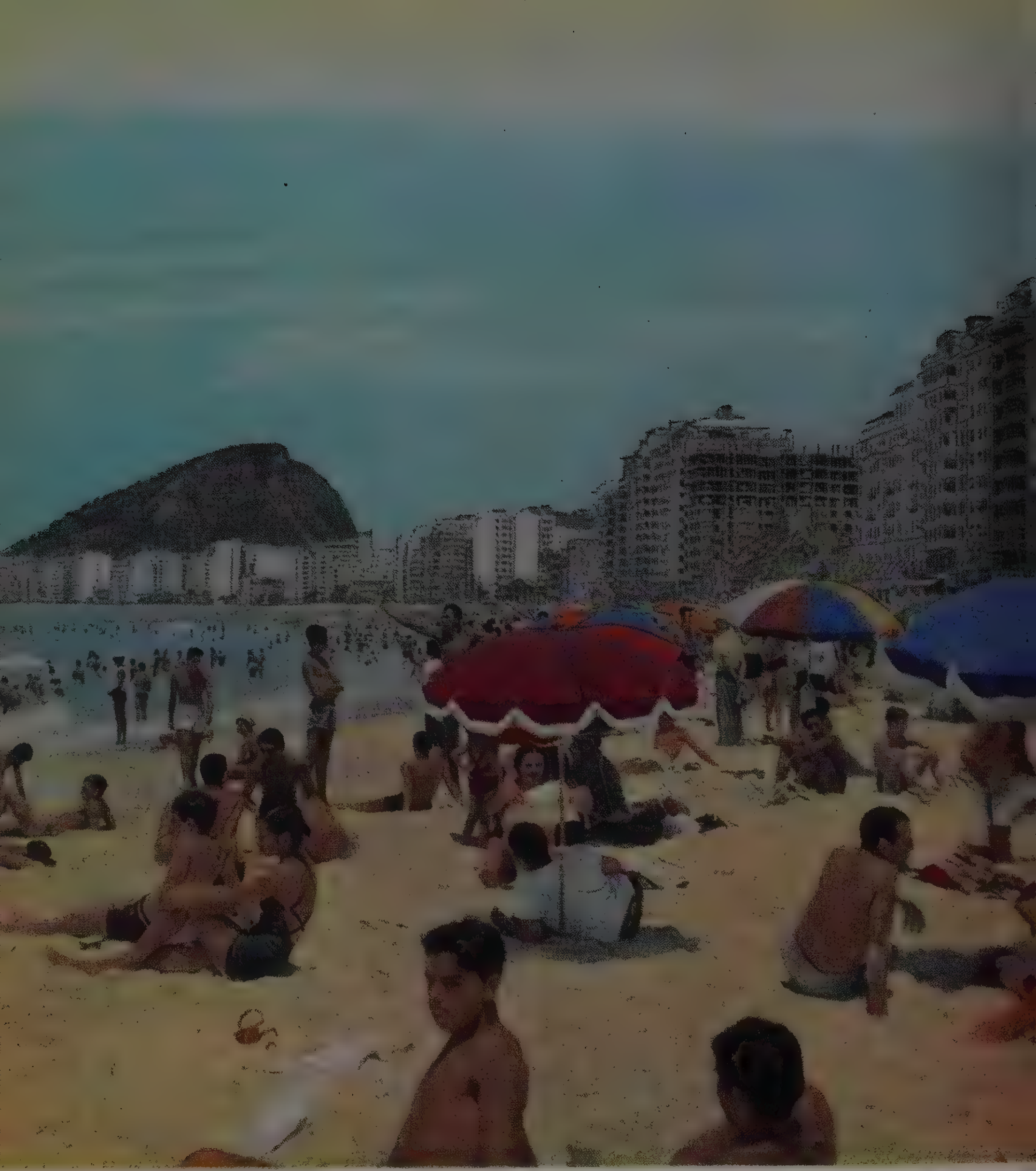
> The pleasing figure of the Negro nurse who, in patriarchal times, brought the child up, who suckled him, rocked his hammock or cradle, taught him his first words of broken Portuguese, his first "Our Father" and "Hail Mary", along with his first mistake in pronunciation and grammar, and who gave him his first taste of "*pirão com carne*", or *manihot* paste with meat, and "*molho de ferrugem*", or "rusty gravy" (a thick gravy made with meat juice) as she mashed his food for him with her own hands—the Negro nurse's countenance was followed by those of other Negroes in the life of the Brazilian of yesterday. That of the Negro lad, companion of games. That of the aged Negro, the teller of tales. That of the house-girl or *mucama*. That of the Negro cook. A whole series of varied contacts bringing new relations to the environment, to life, to the world. Experiences that were realized through the slave or under his influence as guide, accomplice, empiric healer, or corrupter.

What a contrast between this homely education and all that is symbolized in the architecture of the Ministry of Education and Health, or the Brazilian Press Association in Rio!

The clothes which the Brazilians wore in Debret's time make a northern reader sweat to look at. Climate seems to have been scorned. The fashions of Portugal were imported wholesale. But the fine clothes were for fine occasions. The colonial dames flaunted their rich silks and jewels at these; at home a petticoat, slippers and little more sufficed. The unhappy male was even more to be pitied. These men of the torrid zone wore top-hats; the medical students beaver and black cutaway, says Freyre. But the

Viaducto de Chá, part of the arterial highway system of São Paulo. The picture shows the combination of road-making and modern building which has transformed São Paulo in the last twenty years

Three Lions



Lions

Sand, sun, and human skin. This might be Miami Beach, the Lido, Atlantic City . . . or where else? Actually it is Copacabana, the famous bathing beach of Rio de Janeiro, reached by a traffic tunnel through the hills. Twenty years ago there were hotels and residences, but the architectural development of many-storied blocks shown in the picture is entirely modern

(Above) *Hotel Quitandinha at Petropolis, the Simla of Rio de Janeiro, which gained its popularity for the society of the capital when the Emperor Don Pedro II fixed his residence there. More than any place in Brazil it yet bears into the present the air of a leisurely and dignified past.* (Right) *The full extent of the mineral resources of Brazil is unknown, but they have for long been partially exploited. At Volta Redonda iron ore is now turned into steel on a large scale. Many gems and precious stones are found: by this diamond mine in Minas Gerais a former owner was enabled to acquire three apartment houses in Rio de Janeiro*

Richard P. Momsen

e Lions

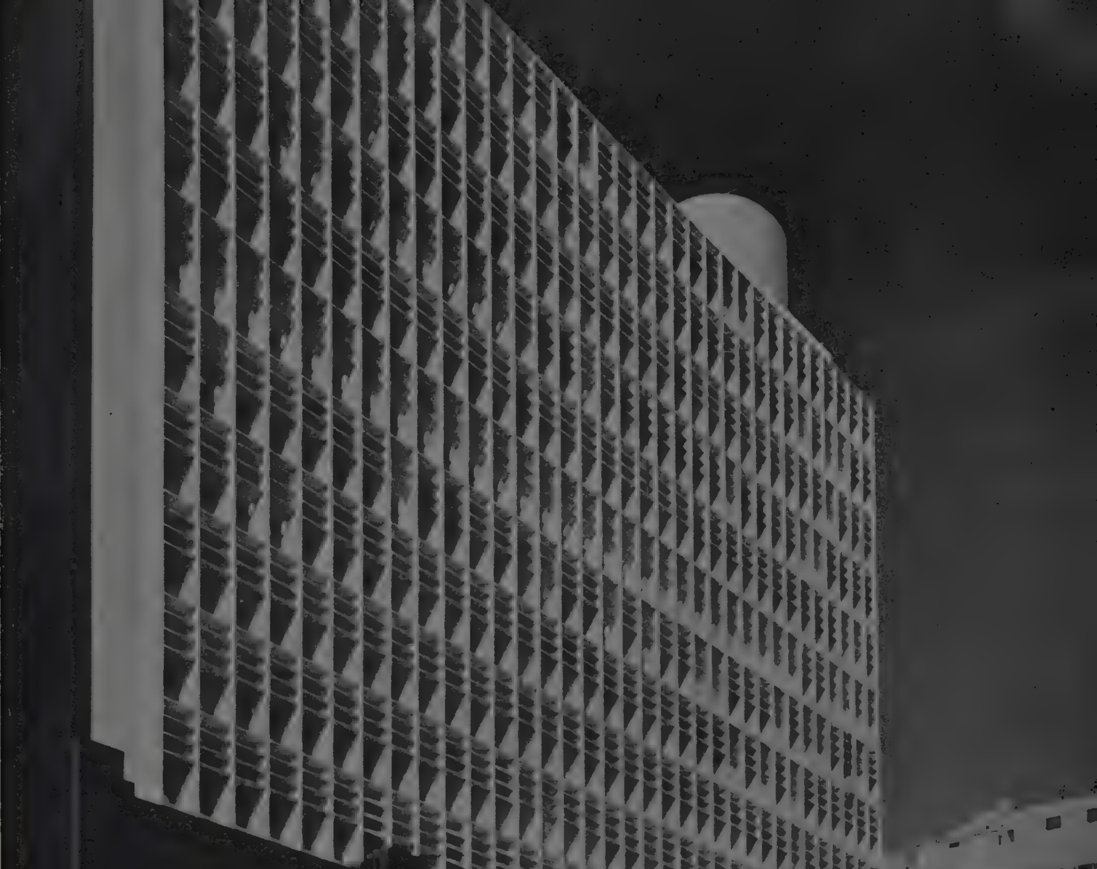
This is a famous viewpoint—so everyone takes up an appropriate attitude. It is the top (almost) of Corcovado, above Rio. Far below can be seen the edge of the city centre with its sky-scrapers, the graceful curve of the foreshore, the Sugarloaf Mountain, and the entrance to the great bay

Bishops, for their part, did not always approve of finery in church, and fulminated against it repeatedly.

The picture of the gauchos is particularly interesting; presumably these were the workaday clothes of the more important of the species. The gaucho is normally associated with Argentina, though he has almost disappeared from the pampas. But the type was well recognized in Rio Grande do Sul, the southernmost state of Brazil. Here latitude and, sometimes, altitude produce a winter of cool days and sharp nights, and the gaucho's voluminous vestments do not come amiss. I can remember seeing a Brazilian gaucho, finely mounted, skilful in the use of his lasso, but it must be admitted that he was wearing more conventional dress. On the plains of north-east Brazil it is still common to see men in leather garments which, indeed, are essential to a mounted man breaking through the thorny scrub of that region.

But, in general, *nous avons changé tout cela.* According to the season the urban Brazilian of today is well clothed in palm beach suit, cotton shirt made in São Paulo or in England, tie, well-polished shoes and all the remainder of the 'dull dress of modern man'. Dull it may be, but it is also convenient.

The colonial country residence, the Big House, was the product of the social and economic institutions of the time, the sugar plantation, the system of feudal patronage, and slave-labour. It was in the capitals, and in the old mining towns, that a somewhat different architectural pattern emerged even in colonial times, but the Big House was the characteristic centre of social development. With important modifications, due largely to the passing of slavery, the style of rural architecture has changed but little. Such a change must await the modern introduction into the interior of improvements in water, lighting, and agricultural methods.



G. E. Kidder-Smith, for the Museum of Modern Art, New

The Ministry of Education and Health was a pioneer in the development of modern architecture in Brazil. Its building is particularly designed to provide comfort and coolness for public administration in the tropics, where damp makes files even stickier than usual!

Costa

Carnival is a popular event in Brazil, as in all countries which owe anything to Mediterranean civilization. The processions and the horse-play go on in the shadow of modern office-blocks. It is an occasion when, as can be seen above, all races mingle, for Brazil has no racial bars

In the city it is different, and the city has a profound effect on the country. Some would say that it is sucking the wealth from the countryside and the small town, and Brazil may be yet one more victim of our excessive urbanism. The man who makes his pile out of coffee, or sugar, or has successfully exploited a local mine, has his town flat, in some such popular block as the "Edificio Esther" in the Praça da Republica of São Paulo. A work published in 1943 with the joint authority of the Museum of Modern Art in New York, and the American Institute of Architects, commented that it would be difficult to find more modern living arrangements than those provided by these apartments.

The effect of this transformation in concrete will also be social. Already the pace of city life has meant the disappearance of religious holidays that once were studiously observed. Carnival still holds its hilarious attraction; perhaps it is pardonable to regard it as a pleasing social pageant and hurly-burly, rather than an event of great religious significance.

But such an occasion is only incidental to the real movement of Brazil. That country, vast in area, relatively small in population, has set its face to the future, and begun to work out its own plans. It may be that we underestimate the significance of this. A smartly polished, tensely febrile civilization in chromium and concrete is being developed in the American tropics, and this is a new thing. The great forests and plains stretching away far beyond the horizons glimpsed from the tallest buildings are, indeed, untouched by it. Will their turn come? It is impossible to say. The government, like all governments, has impressive plans. Will anything parallel to the westward expansion of the United States in the 19th century take place in Brazil on a similar scale? The answer lies in the intentions and resources of the Brazilian nation, expressed not merely in pious hopes, but in costly measures maintained and developed for many generations.

The Men Behind Modern Geography

III. Karl Ritter

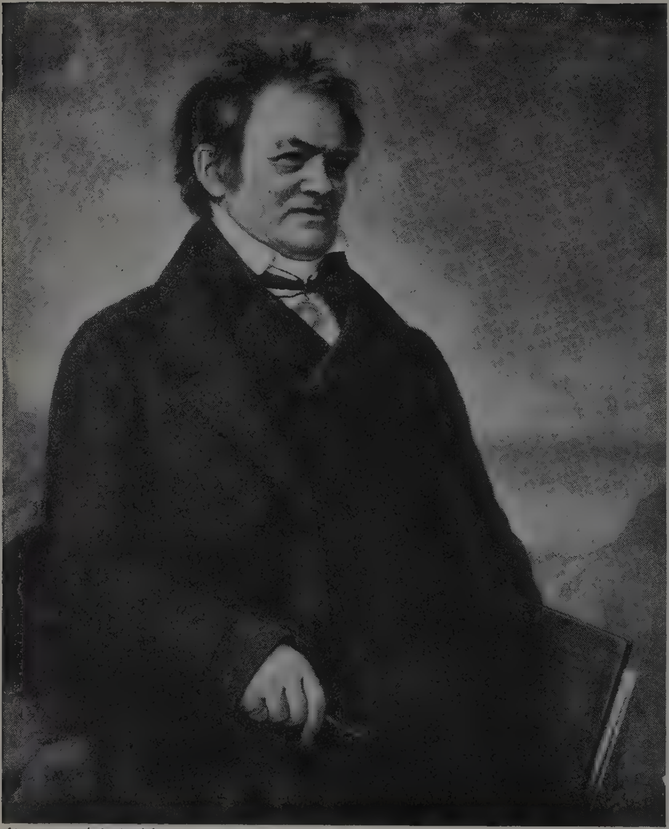
by G. R. CRONE

By contrast with his much-travelled compatriot Humboldt, to whom Mr Crone's last article related, Karl Ritter led a cloistered academic life. But his influence on the development of geography and on his contemporaries was no less great; while subsequent generations should not overlook one who helped to give Prussian generals a strategic insight that their military opponents lacked, and who taught that the appreciation of geographical factors was essential to national progress

We have seen how Humboldt, by applying scientific methods and principles, had brought order into the accumulation of detailed observations on the earth and its natural phenomena which had been amassed at the opening years of the 19th century. His contribution was essentially that of the natural scientist: but geography as we know it today also takes cognizance of man and his works. Long before the 19th century, philosophers had speculated about the influence of geography upon the human race in a somewhat naïve manner, largely based upon astrological conceptions of the influence of 'climates' on human character. Men, for example, who lived near the tropics were supposed to be hot-tempered, subtle, averse to arduous labour, and masters of the arts of civilization, in contrast to the hardy, courageous, simple and phlegmatic inhabitants of higher latitudes. Historians such as Montesquieu in his *Esprit des Lois* had attempted to give a more philosophical garb to such ideas, but the subject had not been worked out systematically. With the reform in the study of the natural world personified in Humboldt, the problem of its relationship to human history received more intensive study, and it became the life work of Karl Ritter to attempt to discover the link between history and geography, and in so doing to mould decisively the development of the latter subject.

The coincidence that the two men who established geography as an independent discipline were contemporaries, both Germans, and both resident in Berlin for many years, has led to the supposition that Ritter owed his outlook largely to Humboldt, ten years his senior. But, while Ritter acknowledged his indebtedness to the master, and followed similar methods, it seems clear that he had formed his ideas independently. The two men were never intimates—they belonged in fact to different worlds—and as will be seen Ritter's fundamental outlook was far removed from that of the sceptic Humboldt.

Karl Ritter was born at Quedlingburg in 1779. On the death of his father he was placed at the age of five in the educational institution at Schreppenthal, then famous for its advanced methods, which included rambles through the surrounding countryside, the study of nature, and an insistence upon practical, rather than classical, attainments. When the time came to proceed to a university, he found a patron in the Hollweg family of Frankfurt-on-Main who paid his expenses on the understanding that he afterwards became tutor to the sons. Ritter accordingly studied at Halle, taking courses in finance and educational methods. In 1798 he entered on his duties as tutor, one of his pupils afterwards becoming Baron Bethmann-Hollweg. This post was of great importance for Ritter's future, for it introduced him to aristocratic and official circles, provided opportunities for travel, and ultimately took him to Göttingen, where he was brought into contact with the eminent scholars of the day. He had begun the study of history and geography at Frankfurt, and developed his powers of observation and analysis of the landscape on tours through Europe. In 1806 he published maps of the physical geography of Europe, and five years later a two-volume geography of that continent, which attracted attention at the time. Though he had begun to plan his great *Erdkunde* in 1817, his interests were still divided between history and geography (he was professor of history at Frankfurt in 1819), and the final decision to concentrate on geography was not made until in his forty-first



Karl Ritter (1779-1859): first Professor of Geography at the University of Berlin, who brought geographers to study man's geographical environment "both as a whole and as a group of interrelated units"

After a portrait by Carl Begas

year he was appointed the first Professor of Geography in the University of Berlin (1820). His historical interests were still maintained, for he also lectured on history at the War School; later he became director of studies to the Corps of Cadets. In these posts, he did much to guide the Prussian officer class to an appreciation of the value of geography. Among his pupils was the future Field Marshal von Moltke. His university lectures were poorly attended at first, but the earnestness and eloquence of his delivery combined with his impressive learning soon drew great audiences, and geography was firmly established in the academic world. He spent his vacations in extensive journeys throughout Europe, and came to know his homeland, Switzerland and Italy intimately. Unfortunately his massive work, the *Erdkunde*, never reached the section which was to deal with Europe, so that we cannot judge the true worth of his personal observations in the field.

The full title of his encyclopaedic work reads in translation: "Earth science in relation to nature and the history of man; or general comparative geography as the foundation of the study of and instruction in the physical and historical sciences" — which, though not entirely accurate, gives an indication of its scope. The first volume appeared in 1822, the tenth in 1859, the year of his death—only Africa and Asia having been covered. For the study of Ritter's ideas we have also the lectures on general aspects of geography delivered to the Berlin Academy of Sciences.

In his general approach to the subject, Ritter professed to proceed from observation to observation, never from hypothesis to observation, "making the earth deliver up its own secrets", and establishing "the unity of law among the diversity of phenomena". The scope of geography he limited strictly to the surface of the earth and the natural phenomena working directly upon it. The continents he regarded as consisting of the interior plateaus, terraces, and lowlands, united by river courses; on these operated the "fluid" elements, water, air (including climate) and fire (volcanic phenomena), and from them emerged their mineral, vegetable, and animal resources. Combinations of these produced his "units", which foreshadowed the regions of the modern geographer. Finally there was the human race who, whether as individuals or as states, shared a destiny irrevocably linked to the natural environment. Inherent in each state (as in individuals) were qualities capable of development, but unless the state understood the realities of the space it occupied and its relation to them, no progress was possible. The homelands of the nations were not only the source of their livelihood and the scenes of their daily lives; they were the schools in which the nations were being educated to consummate the Divine purpose. As an ardent evangelical Christian, Ritter had become convinced in the course of his studies that the hand of a beneficent Creator was evident in the universe. The history of man upon the earth was predestined and immutable, firmly fixed in the geographical framework from which there was no escape. The Creator's ultimate aim, however, was beneficent, and it was therefore the duty of man to realize his capabilities and those of his environment, in order to forward this purpose. Ritter therefore allowed that technical progress, e.g. by increasing the speed of communications, or in draining marshes, could make men less dependent upon geographical factors, but never completely free from their influence. The merit, or the responsibility, for their spiritual maturity, or backwardness, rested with their natural surroundings. Ritter's arguments are notoriously often obscure and involved, but this is perhaps as far as it is possible to reconcile his inconsistencies. Later, of course, when the religious element was cut out, such views led to pure 'determinism', i.e. the domination of man by his geographical environment.

The general conclusions to which Ritter's studies led him are summarized in his lectures mentioned above. He directed attention to the distribution of the continents on the globe, their configuration and their structure, particularly the distinction between the land hemisphere centred in Western Europe and the antipodal water hemisphere of the Pacific. The transition zone between these hemispheres, where oceanic climates replaced the continental climates of the interior, was the main theatre of human progress. In the land hemisphere he pointed to the contiguity of the three continents of Europe, Asia and Africa, and the relative isolation of the Americas. In characterizing the continents he attached great importance to the relation between length of coastline and total area: a high proportion of coastline to total area created conditions favouring easy intercourse by sea, which promoted the interchange of ideas and material resources. In his view, geographical diversity produced historical diversity, and so cultural advance. Thus the favoured parts of Asia were the three peninsulas of the East Indies, India, and Arabia, which had their counterparts in the three European peninsulas of the Balkans, Italy and Iberia. The general east-to-west alignment of climatic zones in Asia favoured the easy passage of peoples, through familiar environments, to Europe. In contrast to Europe and Asia, he considered that Africa, with its relatively unbroken coastline and large areas of monotonous tropical climate, was destined to be backward and unprogressive. These ideas fitted in with his conception of Divine premeditation : Asia, the birthplace of civilization in the east, was designed to permit its achievements to be handed on to Europe, which, owing to the natural conditions already noted, was fitted to develop them and to pass them on, in God's good time, to America.

With qualifications, therefore, Ritter may be regarded as a geographical 'determinist', and though there was some opposition at the time, this standpoint won considerable approval and led to some unfortunate results. It is not difficult to see why it was popular in its day: it fitted the orthodox religious outlook, and with its emphasis on the role of Europe as the bearer of enlightenment and material progress to the outside world, it offered a rationalization of 19th-century development. Moreover, with a little ingenuity, it could be made to 'explain' any historical event or trend. It was the length to which it was carried by some of Ritter's pupils that eventually provoked the reaction. In Germany Ritter's work made a strong appeal: the fervour with which it was presented, the promise it held out of explaining the world and its history, the massive erudition displayed on almost every page, all fascinated the academic world of contemporary Germany.

Whatever may be thought of Ritter's teleological views, however, the importance of his contribution to geographical thought cannot be challenged. Many of his observations and generalizations are still valid, apart from the context into which he fitted them. He showed how, by the patient correlation of position, physical features, climate and natural resources, an understanding of the individuality of a geographical area could be built up; he brought geographers to study the world both as a whole and as a group of interrelated units, and to reflect upon the significance of all this geographical diversity in the history of mankind. Though his *Erdkunde* may now be little read, for he made no attempt to woo the general reader and a work of this kind inevitably dates, few works have exerted greater influence upon the development of geography.

Millions for Meat

Production Prospects in Australia

by R. F. CORNISH

This survey, by a Queensland journalist who has specialized in the pastoral and agricultural affairs of Australia for twenty-five years, was written after he had completed two car journeys totalling 8000 miles through Northern Australia with the Minister for Agriculture of Queensland

WHEN the British Food Mission was in Queensland early in 1948 to assess Australia's meat production possibilities, its leader, Sir Henry Turner, who is the British Food Ministry's meat and livestock chief, told me: "Australia could 'pinch' Argentina's heritage if she really liked. We have determined that this is the one country in the world that has the capacity to provide Britain with the extra meat she needs, and we want 800,000 tons more than we are now getting." It was Sir Henry's view that, if Australia was equal to her opportunities, she could double her annual meat exports to about 400,000 tons, and then not satisfy the market available.

Since the visit of this mission Australian authorities have been pondering and planning how best the livestock industries can be expanded to help Britain bridge her vast gap in supplies. It is generally appreciated that Australia has enormous possibilities for increased production. The problems to be overcome to attain it in a reasonable number of years are equally enormous. Their solution will involve new development costing many millions of pounds, and great energy and resourcefulness by producers and government administrations, with full cooperation from Britain in assuring sound prices over a long period of years.

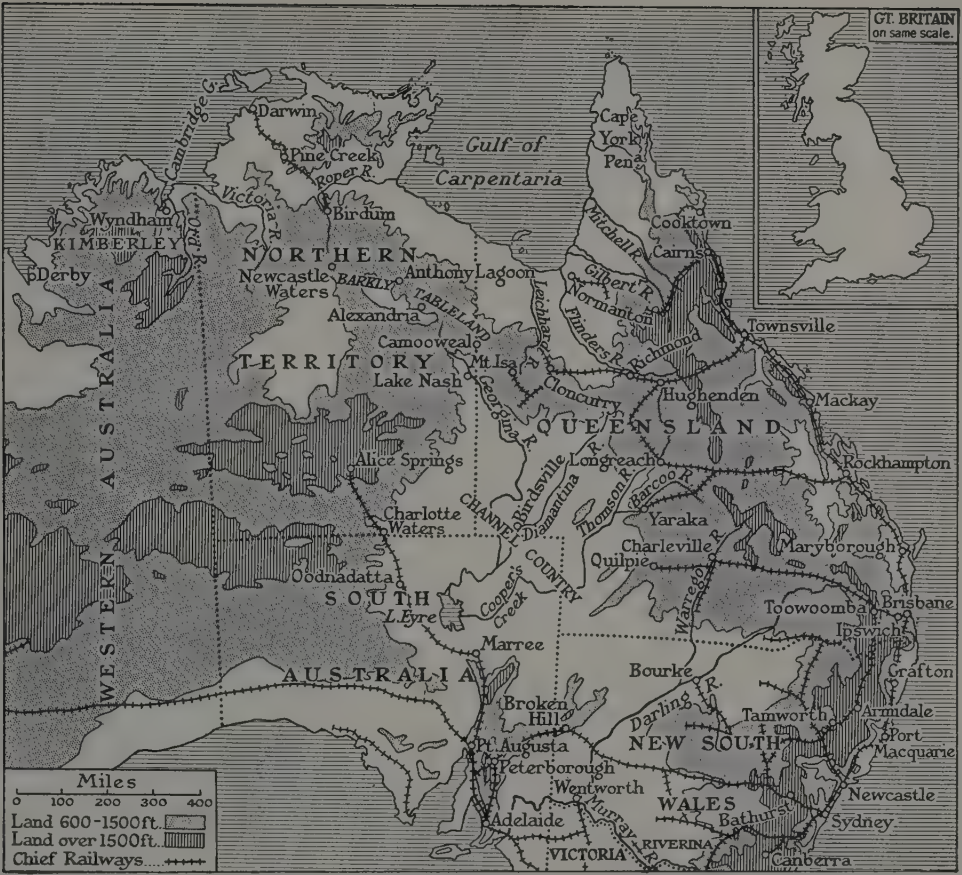
BRITAIN'S HUGE DEMANDS

The market outlook for meat, on both the long-term and short-term bases, was never brighter than at present. In the United Kingdom, alone, the demand for meat products remains unsatisfied to the extent of about 800,000 tons annually. Before the war Britain consumed, on the average, approximately 2,115,000 tons of meat a year, of which Australia contributed about 200,000 tons. The British Food Ministry now estimates that, because of increasing population and improvement in the purchasing power of the people of Britain, 2,400,000 tons of meat products will be required every year to satisfy the demand, while the total quantity of meat available to the British people from all sources in 1948 was only 1,600,000 tons. The Food Ministry hopes to lift home production of meat in the United Kingdom by an additional 400,000 tons by 1954, which will still leave a gap of 400,000 tons to be supplied from other sources.

Under the spur of a proposed United Kingdom Government guarantee of a secure market for fifteen years Australia is to be given the task of increasing her meat exports to 400,000 tons annually. Australia's production record over the past few decades does not, however, encourage optimism for big immediate gains to satisfy what Britain expects of us. Meat exports from Australia for the year ended June 30, 1949, totalled 185,904 tons—a decline of about 26,000 tons on the previous year's total. The drop was confined chiefly to beef and veal, output of which was only 78,731 tons, compared with 118,625 tons a year earlier.

Beef is the sheet-anchor of Australia's meat production. High wool prices and drought-depleted flocks have been an effective brake on the production of mutton and lamb. Combined exports of these meats reached a peak of 113,000 tons in 1939-40. By 1948-49 the export surplus had shrunk to only 51,689 tons. High prices for wool make sheep too valuable to slaughter, with the result that graziers have been changing from the production of dual-purpose sheep to the raising of merinos, the fleece from which is attracting world-record prices.

One would expect the pig industry, more than any other, to make the quickest contribution to increased meat supplies for Britain. But an alarming decline in stock production, which set in in 1941, has barely been arrested, and there seems little hope of an early substantial improvement in exports as a result of increased production by Australian farmers. These have found it more profitable to sell grain than feed it to pigs, with



A. J. Thornton

the result that pig production is confined mostly to areas where there is a milk supply.

For the greater part of Northern Australia, which I traversed during the past few months, 1949 will be remembered by stock raisers as one of the best seasons in half a century. Pastures flourished as never before thousands of miles down the cattlelands from the Northern Territory and the Gulf of Carpentaria. The Channel Country of Queensland's far 'outback' had never known a better season. For another 1000 miles along Queensland's east coast hinterland, where half the State's normal cattle herd of 5,000,000 head are bred or fattened, the same excellent conditions were experienced. There never was a time when Australia's pastures were in better shape. The great season, however, is not reflected in extra meat produced. Good conditions now can have little bearing on current meat production, especially beef, since fat cattle marketed this year have taken four or five years to grow.

It will be a good many decades before Australia becomes a serious competitor of the Argentine on the United Kingdom market. Claims that an increasing avalanche of meat can be produced in Australia in a few years, to help Britain over her supply problem, are misleading. While this country has a tremendous production potential it will be impossible to exploit it fully until vast changes are brought to bear in improved production methods, in the establishing of more stock-watering points, in the provision of better transport facilities.

Before anything can be done at all the beef-cattle industry has to live down a dismal record of frustration and inertia which have long dampened the efforts of producers. Australia's beef-cattle herds have stagnated at about 9,000,000 head for thirty or forty years. About two-thirds of this number are depastured in Northern Australia which supports only 15 per cent of the country's human population. It is in this region that Britain probably has the best prospects for increased supplies. Here is the big cattle country of great hopes, but one in which there are great arrears in development.

NORTHERN TERRITORY PROSPECTS

Australia's remote and sparsely-settled Northern Territory offers tremendous scope for expansion of the beef-cattle industry once a sound basis for development is established. In that vast silent land of 524,000 square miles, which is five times the size of Britain, 252,000 square miles are leased for grazing. It is inhabited by only 6000 white people.

The proposed fifteen-year contract between Australia and Britain has brought the Northern Territory, like the rest of the sprawling northern lands, to the cross-roads. In one direction lies progress in our time, more population by whites, more production of meat. The other way leads to continuing stagnation, hopeless inertia and frustration.

Even under the best-laid plans the Northern Territory cannot in the foreseeable future meet more than a part of Australia's objective of 400,000 tons of beef for export. Last year the Territory's herd of just over 1,000,000 head of cattle turned off 111,000 head for export and 12,000 for local consumption. The Commonwealth Government's Bureau of Agricultural Economics has predicted that, during the next fifteen years, beef production in the Northern Territory could be increased by about 50,000 tons over present production which is equal to about 30,000 tons. This would increase the present total Australian production by almost 10 per cent, and could increase exports by about 50 per cent, provided the beef needed for an expected increase in Australian consumption is obtained from other States.

For the Northern Territory a goal of another 50,000 tons is a tall order, since it involves the depasturing of an additional 1,500,000 to 2,000,000 head of cattle. Some current claims, especially that the Northern Territory can treble its turn-off of beef cattle within five years, appear over-optimistic. Mr F. G. G. Rose, Senior Research Officer of the Commonwealth Division of Regional Development, makes a more cautious estimate. He mentions a possible increased export of 38,000 tons which could result from development plans. Mr Rose adds this warning: "Any plans for the development of the Territory's pastoral industry must assume that a satisfactory market for the turn-off is available. A fifteen-year agreement would go a long way towards meeting this condition, but one note of warning might be struck: fifteen years is not a long period for the development of the cattle industry, for it must be remembered that it takes at least four years from the time that the cow and bull are joined for one extra pound of beef to be available for export. Any development of the industry must of necessity be gradual and immediate results cannot be expected."

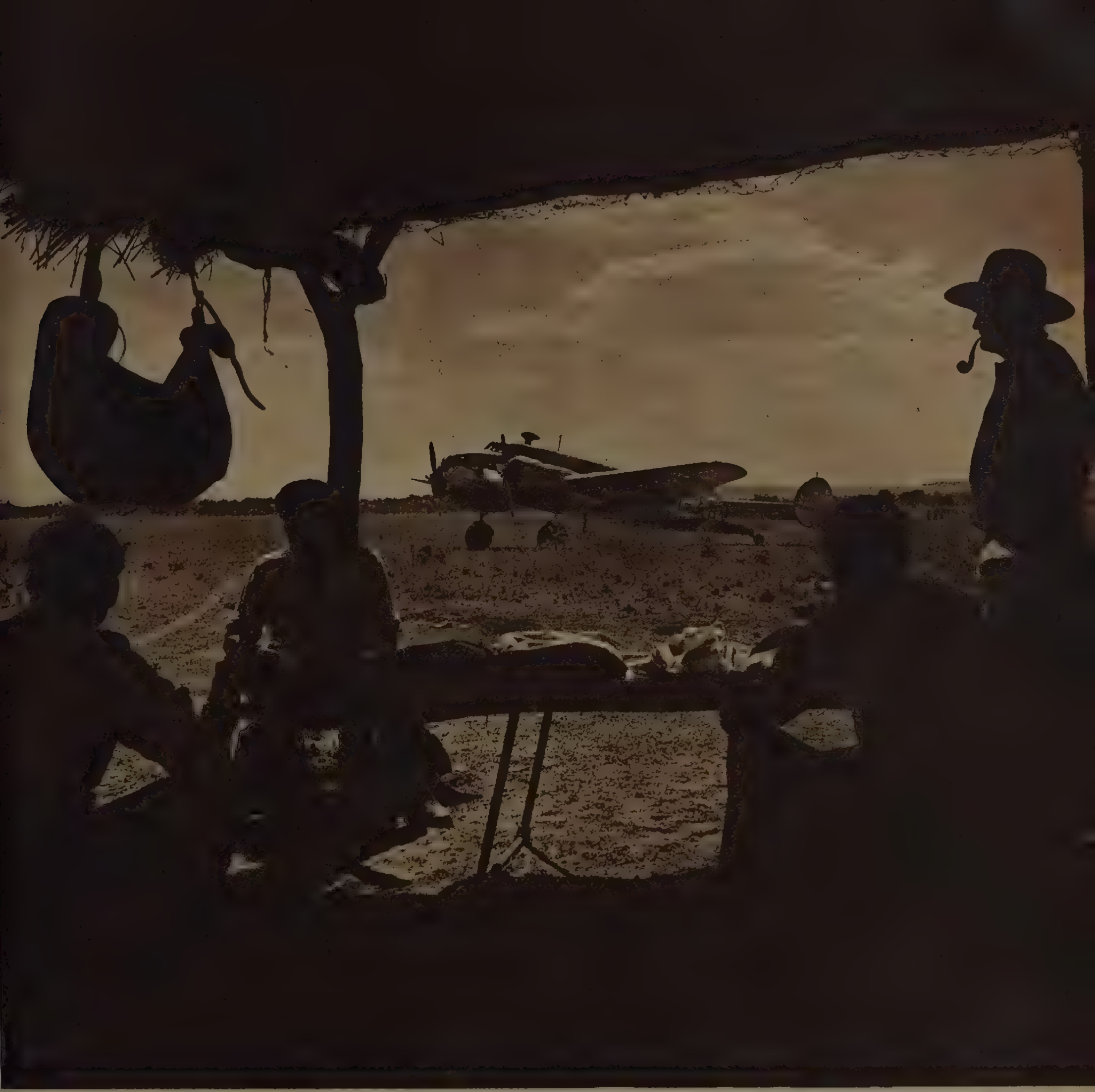
PIONEERING LIFE

"Territorians" are tough men in a tough land, where life is still full of pioneering adventure. For the courageous women holding out there it is a hard life offering few amenities and fewer opportunities for social activity. The Barkly Tableland that stretches 400 miles into the Territory is a woman-hater's paradise. On the whole of these rich cattle pasturages there are only ten white women, of whom two are spinsters. Children of school age and under number only seven.

In the Territory rainfall varies from 60 inches a year at Darwin to 10 inches at Alice Springs. Nowhere does rain fall from April to October. Except in the Darwin-Gulf district and the Victoria River district (where permanent water is provided by the Victoria and Ord rivers) there are no permanent streams and water has to be obtained by sinking artesian bores or by surface catchment.

To appreciate the colossal task involved in increasing the Territory's productive capacity there must be some understanding of the conditions and problems of this remote region. Most of the Northern Territory cattle are walked in mobs of 1000 to 1300 head hundreds of miles to market, over fair to indifferent stock routes, to arrive at fattening depots one to four months later, generally in poor store condition. 'Spelling' and fattening after the arduous overland trek means the holding of cattle at fattening depots another twelve months before they are ready for slaughter, when they are again walked hundreds of miles to railheads.

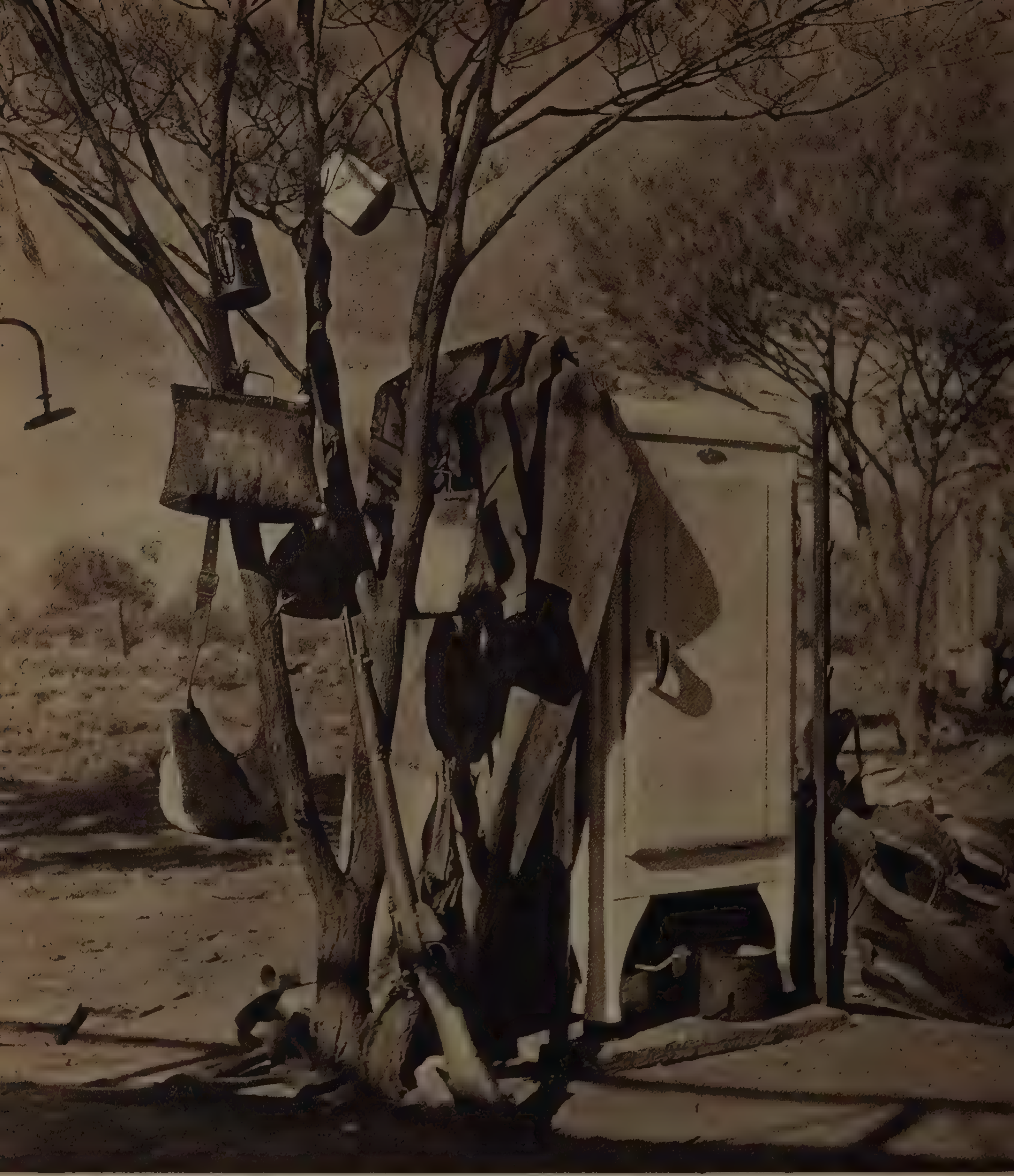
Cattle from the Barkly Tableland, one of the richest cattle grounds in the Territory, are nearly all sent to Queensland. After the great annual musters tens of thousands of cattle sway down the stock route that bisects the Barkly Tableland 400 miles from Newcastle Waters to the border, where they are funnelled into Queensland through Camooweal and Lake Nash. A large proportion of them



Outback in Northern Australia

Notes and Photographs by DOUGLAS GLASS

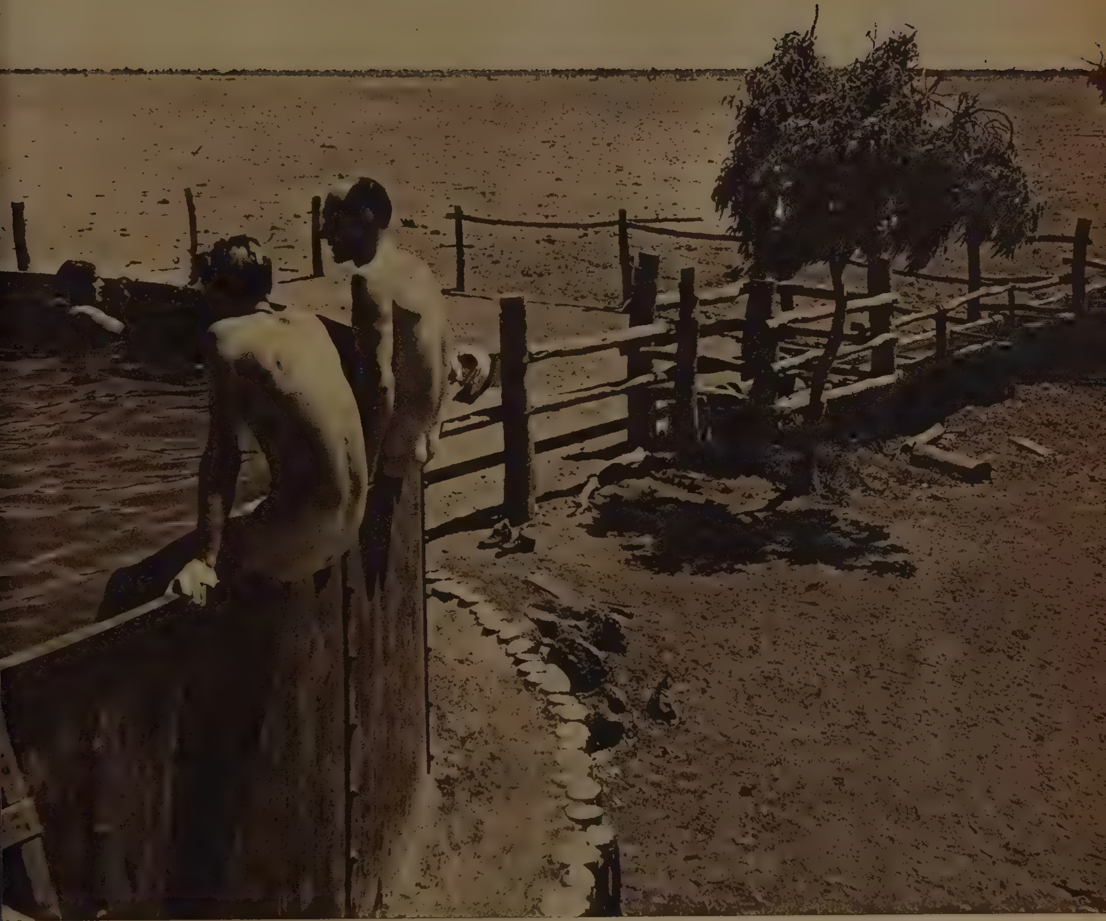
'Plane Day at Dave Rus's outback cattle-station is a recurrent holiday. Under the 'bough shade' he always prepares a spread for the pilot, the 'flying doctor' and whoever may be on the 'plane: home-made bread, pickles, sauces, cheese and piles of cold beef. The aeroplane is the key to this vast under-populated area and Eddie Connellan, who runs an outback air line connecting up homesteads many miles apart, has the slogan "Populate or Perish" emblazoned on all his aircraft and will run a service to any station at all, no matter how isolated, where there is a woman



Here is the beginning of one of many 'thousand-square-mile' cattle stations in the outback: a rifle, the all-important water-bags, saddles, and the urban essentials of refrigerator and shower-rose. Not quite the first step, since the artesian bed has already been tapped and the shower is connected to the 'bore'. It is only after another seven wells have been sunk that the stock-breeder will begin to think of building a house

"Come down for a game of tennis on Sunday." That was your neighbour's voice on the 'phone. Of course, he may be hundreds of miles away, and the 'phone is a 'party-line' strung along a fence; or perhaps it came over the 'pedal wireless'. A picnic will bring you together for a talk, the picnic being quite as important as the tennis; and every one of you may have to travel a distance of anything up to two hundred miles

If the aeroplane is reducing distance between stations in the Northern Australian outback, the horse is still essential to the running of any station. The stations range from 500 to 12,000 square miles in area, and so large numbers of "brumbies" (unbroken horses) are required—fifteen hundred, for example, at Victoria River Downs in the Kimberleys. In the background are cattle-killing frames; and a windsock marks the airstrip



At dusk, cattle will drink at the trough leading off from the 'bore', but at the moment the latter serves to rid two pilots of the red dust which settles on anyone and anything anywhere in the outback. After landing, outback pilots often dive straight into the bore for a cooling. Each one costs £A1500 to erect, even when founded on the earth from ant-hills, which may be seen between the wooden stakes and the bore's iron side

Many parts of the Australian bush were destroyed wholesale by stock-breeders who cut rings round the bark of the trees to ensure a rapid death. The bush once burnt, grass grew profusely and richly, cattle yields multiplied; and rain and wind eroded the unprotected soil. Extensive areas of ghostlike ring-barked forest are still to be seen. Measures are now being taken to stop this waste

This is Alice Springs, built on an underground river. Its abundant water supply ensures a great variety of vegetables and provides grass for the goats upon which the town depends for its milk. In the centre of the continent, Alice Springs is connected by rail only with the south. Poor communications in the outback mean fewer cattle and loss of weight driving them long distances to railheads

More accustomed to the climate and conditions than white Australians have become so far, aboriginals provide the majority of stockmen on cattle-stations in the outback of Northern Australia. They adapt themselves quickly to the technique of modern ranching in that immense, empty land. These aboriginal children at a Catholic Mission have been taken at one jump from the Stone to the Air Age—and seem without regrets are placed on the fattening pastures of Queensland's Channel Country; others go on to New South Wales, and some travel the notorious Marree track from Birdsville into South Australia.

In a few instances Barkly Tableland 'fats' are sent by huge motor trains 400 miles to Alice Springs, whence they are railed to Adelaide. Most of the Victoria River fats head north for Wyndham, on Cambridge Gulf in the north of Western Australia. Here meat works treat about 32,000 head a year, though of that number less than half are from the Northern Territory.

WORLD'S BIGGEST CATTLE RUNS

Cattle runs of the Northern Territory are the biggest in the world. The largest of them all is Alexandria, a 'station' sprawling over 12,000 square miles of the Barklys. It runs a huge herd of 82,000 head. Fifteen of the 211 cattle holdings in the N.T. embrace more than 3000 square miles of country apiece. The most common area, however, is between 500 and 1000 square miles. One station in the Victoria River district depastures more than 100,000 cattle, and 54 per cent of all the cattle are depastured on stations which have herds of more than 20,000 head.

One of the big needs of the Territory is clearly a vastly improved access to distant markets. But, as has been pointed out by the Bureau of Agricultural Economics, an improvement in transport would not be of full value without a concurrent raising of station-management standards. In one district, for example, a well-improved soundly-managed property carries twenty-three head of cattle to the square mile, whereas the district average is only eight.

What is needed to bring a station to such an efficient standard? According to the Bureau of Agricultural Economics a fully-developed property of 1500 square miles with 15,000 cattle would represent a total asset value of up to £200,000. Such a station would have 300 miles of fencing, 30 watering points and 15 cattle-yards, as well as buildings, plant and equipment to be maintained; and 3000 head of cattle to be marketed each year.

Today not more than six holdings in the N.T. have completely fenced boundaries. On some there is no fencing at all, except a horse-paddock. Almost as important as fencing is the provision of watering points. There is always a dry season in the Northern Territory and if no rain falls during October and November thousands of cattle are lost through bogging in drying water-holes, and others die when over-grazed land around water-holes is eaten out.

But almost all the materials needed for increased production—in the N.T. and elsewhere in Australia—are in desperately short supply, the flow not being sufficient even to maintain the present turn-off of cattle for market. This is what the Bureau says is required to develop the Northern Territory fully: the present 6000 miles of fencing must be supplemented by a further 30,000 miles, and the present 700 permanent watering points by a further 2300. To carry out this work, some 20,000 tons of wire, several million steel posts, and thousands of pumps and tanks and much incidental equipment would be required.

The Bureau sums up: "If these minimum improvements were carried out in the N.T., the carrying capacity of the grazing lands could be increased from 4½ head to more than seven head per square mile, so that 1,770,000 could be carried. Likewise, turn-off could be increased from 11½ per cent of the total herds to 17½ per cent, and the proportion of fat cattle in the turn-off from under 50 per cent to over 60 per cent. In short, if present plans for the development of the Northern Territory are carried out, it is considered that an additional 140,000 fat cattle and 48,000 store cattle could be marketed each year. This means that an additional 50,000 tons of beef would be available to meet the increasing need."

Some authorities feel the Bureau is over-optimistic in these estimates. This vast effort cannot even start unless the Government grants long-term leases in the N.T. According to Lord Vestey, whose firm has big holdings there, the relatively short leases that now exist do not warrant expenditure of much money. Scarcity of labour as much as the shortage of materials is another big difficulty ahead. It already persists to a serious degree in the whole of Northern Australia. In fact, dearth of man-power is so acute in the N.T. that were it not for the Australian aborigines the pastoral industry there would cease to function. Alexandria is actually clothing and feeding three tribes of 190 blacks to retain a constant strength of 60 stock-hands and house-'gins'. If the requisite man-power is to be recruited some of the comforts of everyday life in the south will have to be taken to the remote lands of the north. Some pastoral companies have seen the light, and are starting to provide improved living conditions for white men, including better housing and other amenities, to encourage station employees to marry and rear families.

ROAD TRAINS

In distant cattle-lands far removed from railheads, road motor-trains may play an increasingly important part in future development. Extensive trials are now being made into the possibilities of using this means to transport cattle to market. The main objective is the elimination of a year's lag in the time it takes to refatten stock which have wasted to store condition in long overland treks. Already it has been proved that cattle can be delivered with 50 to 100 lb more beef on. A road train in the Alice Springs district carries mobs of 280 to 300 head at 15s. each per 100 miles. The longest haul undertaken has been from Anthony Lagoon to Alice Springs, a distance of 528 miles, at a cost of £4 per head, plus a further £3 : 10s. per head for rail freight to Adelaide. It is generally conceded that this is the extreme economic limit of road transport.

A similar experiment by Queensland and Barkly Tableland pastoral companies is in progress. Under this scheme cattle are road-trained 180 miles to the Mount Isa railhead in Queensland for railing another 800 miles to coastal meatworks. This is making possible the marketing of hundreds of cows which, in itself, is a significant development. Fat spayed cows cannot travel long distances by foot, with the result that the biggest part of the cow beef produced in the Northern Territory is wasted. As cow beef, under good conditions, would be at least 25 per cent of the total production, seriousness of this loss is obvious.

The Commonwealth Government has made detailed plans for transport development in the N.T. The most interesting of these is a scheme to cost £A1,250,000 under which it is proposed to construct 500 miles of road, linking cattle stations in the Victoria River region of the Territory and the Kimberleys in Western Australia with the Wyndham meat-works. A stock-route improvement programme is also intended for the Kimberleys as well as on the western side of the N.T., for which Wyndham is also the outlet for cattle.

QUEENSLAND'S CATTLE GROUNDS

Queensland, which produces more than 50 per cent of Australia's beef and ships overseas more than 80 per cent of it, is destined to fill a major role in any future large-scale development. This State's beef output in 1938-39 was 207,000 tons, rising to 226,000 in 1947-48, but dropping back to 204,000 tons last year. Today, the State's beef-cattle herd is a little more than 4,500,000 head—lower than thirty or forty years ago. Queensland's net cattle yield is about 1,000,000 head annually. Back in 1945 a Royal Commission on Abattoirs and Meat-works estimated that when the natural resources of the land reached full development, from 9,000,000 to 10,000,000 beef cattle could be depastured within the State. The Commission believed that the number of cattle which could be turned off annually, under full development, would approach 2,400,000 head.

The industry's long stagnation arises from many years of depressed prices. Store cattle values were so deplorably low between the two world wars that there was little money left over for property improvements. Now that the cattle industry has come back into its own, as regards the price being paid for its product, huge drought losses in 1946 and again in 1948 have been a big factor in retarding production.

In addition to the vital need for extension of railways, better roads, and improved stock routes, stations themselves must undergo big improvement to enable the carrying of more stock under reasonably safe conditions. Just now when graziers have the money to go ahead they are unable to buy materials. Over on the Leichhardt and east of the Flinders there are places where earthen tanks excavated two years ago cannot be used because there is no piping, troughing and windmills to equip them. Fully efficient marketing of cattle—in other words, more beef—will never be possible until means are found to permit easier removal of stock from remote areas and thus eliminate the twelve months it takes to refatten cattle submitted to rigorous 'overlanding'.

THE CHANNEL LANDS

Queensland's south-west Channel Country offers better scope for rapid development than any area in Australia, though it is an area of low rainfall subject to protracted droughts. But rain that falls over this zone is not responsible for its wealth of cattle-fattening pastures. They are among the best in the world because of its unique natural system of irrigation and the amazing richness of grasses and herbages that follow flooding of huge areas from rains that fall south of the Gulf of Carpentaria, hundreds of miles to the north.

The so-called Channel Country derives its name from the inland delta characteristic of the rivers Diamantina and Georgina, Cooper's Creek and several other streams. All of them rise in the well-watered zone south of the

Gulf, but due to a water-worn level terrain no stream has a defined water-way. Floods move so slowly that there is no damaging 'gouging-out' of the country.

This region is situated in the neighbourhood of the "Three Corners"—where Queensland touches the Northern Territory, South Australia, and New South Wales. It is a forbidding, sparsely-populated, almost inaccessible zone. Here great mountain chains of antiquity have been weathered to stony ridges, claypans, pebbly downs, interspersed by the silted-up remains of mighty rivers that have now become immense inland deltas. The country hundreds of miles down Queensland's furthest outback is crisscrossed by a complex network of channels twenty to fifty miles across. Authorities have estimated that in flood years this intricate land system irrigates 10,000,000 acres. The receding waters of the channels and of large lakes are followed by a profusion of rich pasturages, which fatten cattle at a young age, and to a quality which the sown alfalfa fields of Argentina cannot surpass. As a fattening ground designed by nature, it would seem impossible to find its equal in the world.

Some of Australia's best fat cattle come from this region, but full productive capacity is baulked by isolation and transport conditions seriously inadequate to give access to markets. As mentioned earlier, big stations here are used as fattening depots for cattle driven hundreds of miles down from the Northern Territory. Full development hinges upon construction of a two-way railroad system—one to bring store cattle down from the breeding grounds of the far north to take advantage of good seasons; another to market 'fats' in good condition immediately they are ready to be turned off. The difficulty now is that cattle often arrive too late to consume Channel feed; they always have to be held too long to enable them to stand up to a gruelling overland trek hundreds of miles to Queensland railheads.

Concrete plans have been formulated by Commonwealth and State authorities to construct 528 miles of main roads into the Channel Country from railway termini at Yaraka, Quilpie, and Bourke. Commonwealth spokesmen estimate that this will lift the Channel's annual turn-off by 40,000 head annually to 100,000 head over the next five years, which would mean 12,000 tons of dressed beef a year. But roads are still a poor substitute for railways.

The Queensland cattle zone offering opportunities for substantial expansion on the shortest-term basis of any area in Australia is situated in the Central-North Coast and hinterland. Here on 142,500 square miles are carried 2,500,000 head of beef cattle, which is about half the number of all beef cattle normally depastured within the State. The 1945 Royal Commission reported that a developmental programme in this zone would increase the area's annual turn-off of fat cattle by at least 600,000 head annually. According to the Commission the great mass of the cattle country in Queensland was under-developed or under-producing, with much of the land not far advanced beyond its virgin condition. And nothing has transpired in the past four years to alter that state of affairs.

NO SURPLUS BY 1960?

Australia unquestionably has vast untapped natural resources which must eventually lead to a greatly expanded meat economy. To what extent and how soon this will benefit Britain in increasing meat supplies will depend upon how far incentives are extended to producers to justify the outlay of huge sums of money, upon satisfactory long-term guarantees from Britain as to availability of the market well into the future, and upon price undertakings that will give sufficient return for the investment. Details of the proposed fifteen-year agreement with Britain on these vital points are still awaited.

There are few practical men who would be prepared to predict that it will be possible to double Australia's meat exports to 400,000 tons annually ten years hence, or even in another fifteen years, but with the right kind of encouragement gains would be rapid and substantial. One thing is certain: if new life is not injected into the meat industry it will continue to stagnate, as it has done for nearly half a century. This could only mean a diminishing meat surplus for Britain within the next decade or two. Australians are among the world's biggest meat eaters, and Australia's growing population, now about 8,000,000, consumes already 80 per cent of the country's entire annual output of 1,000,000 tons.

Lord Vestey has warned of this trend of home consumption towards absorbing the export surplus. A more grim prediction has been made by Mr W. A. Beattie, a Commonwealth Scientific and Industrial Research Organization investigator who has been surveying the cattle industry. It seemed inevitable, he said recently, that by 1960 Australia would need all the beef she produced, unless drastic measures were taken now to expand production.

Detective Story from an Old Map

by C. A. BURLAND, F.R.A.I.

THERE is a fascination about an old map, whether it delineates the familiar landmarks of our home or the wonders of some distant tropic land. Why, we do not know, but we find ourselves pondering the misspelt names, finding our way along rivers, or across the seas to the Cannibal Islands. Through the transparent lines of the map we subconsciously sense the scene of high adventure. Imagine, then, the thrill of handling an old book set up in Gothic type, which contains the first printed map of newly-discovered lands across the Western Ocean: as the old caption says, ". . . the wide Provinces reputed to be the Continent of the Indies". When this map was printed Amerigo Vespucci was still writing and no wit had yet thought of dubbing the new land "America".

The book is the first edition of the *Decades of the New World*, by Peter Martyr of Angleria, and together with the map it was published by John Cromberger on April 11, 1511. That date is important.

Here we see the coasts Columbus found; the Island of Hispaniola and the shores of South and Central America, from Trinidad to Panama and Honduras. This was printed seven years before Balboa crossed the Isthmus to see the bright South Sea, so it displays no idea of the depth of the continent. It is a map of the coasts of the Caribbean.

The Bay Islands, marked by *Guanaia*, where Columbus met the great trading canoe in 1502, are a jumping-off point for the Cays and capes of British Honduras and Yucatan.

What are we saying? . . . Yucatan was not discovered until 1517.

Well, Cromberger knew about it in 1511! From the Bay Islands he leads us north to Ambergris Cay above Belize, and thence to the shoal waters of Cozumel and Mujeres Island near Cape Catoche. Our map mentions the famous *Baya de Lagartos* (near the Gulf of Campeche) and then by a rough and incomplete sketch indicates the coast of the Gulf of Mexico round to Florida and thence to the line of Keys stretching to Cuba.

Now, who could have given this information to Cromberger before 1511? The map is leading us beyond romance, to history. The clue is given by Herrera, the Historiographer of the Indies, whose book was published as late as 1601. He tells us that Juan Diaz de Solis and Vincente Yañez Pinzon had, in the year 1508, sailed along the coast of Yucatan. They are given a bare notice by Robertson, a little footnote by Prescott; and the reality of their voyage has been a matter of dispute even after four centuries.

We must now go back in time, taking our map to a Spanish court in the year 1516 (still before the official discovery of Yucatan). Evidence is being taken from witnesses supporting Vincente Yañez Pinzon (Solis had died, eaten by cannibals on the La Plata). They were refuting claims made on the Crown by the heirs of Christopher Columbus, Admiral of the Ocean Sea. Diego Columbus had disputed the reality of their voyage. He claimed that they had repeated a drawing of Honduras and the Bay Islands on their map a second time and thus forged a discovery. So strongly did the family feel that his younger brother Ferdinand repeats the accusation in his biography of their father, the Admiral.

Unfortunately for us the witnesses were not clear; they speak of sailing left or right, or east and west, from the Bay Islands. We need to know who went north.

The date 1508 was accepted, and Nicholas Perez deposed that the Admiral Columbus ". . . discovered Cape Gracias a Dios, and that all beyond that is discovered, was discovered by Yañez and Juan Diaz de Solis; that this appears by the sea chart drawn by them, and that by it all who go to those parts are guided".

Now, is this the original chart from which Cromberger had our map engraved? The Columbus trial opens two lines of research. Vincente Yañez Pinzon gives place-names: he claims to have discovered ". . . from the Island of Guanaia to the Province of Camarona, following the coast towards the east as far as the provinces of Chabaca and Pintigron . . . (and) in following along the coast a great Bay, to which they gave the name of the Bay of the Nativity. Thence the witness discovered the mountains of Caria, and other land further on".

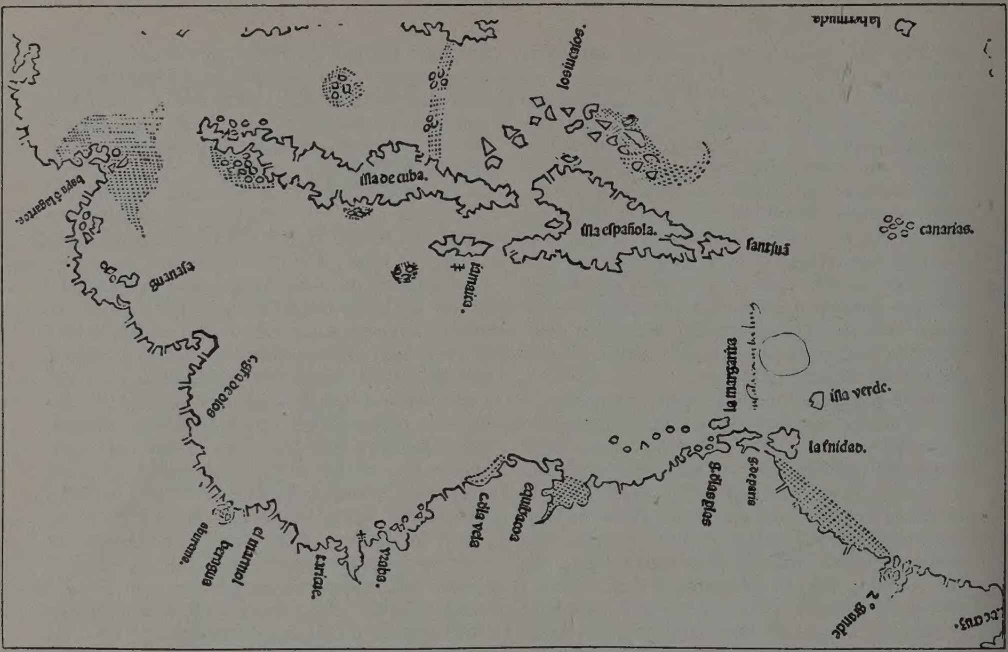
The other evidence is by a young man, and was not seriously considered by some historians because of the youth of the narrator; yet we shall see that Pedro de Ledesma, a qualified pilot in his early thirties, gives the only evidence which immediately makes sense to a modern reader. He claimed that he had been on the voyage of 1508 and that they had discovered new lands ". . . from the Island of Guanaia towards the north; and that these lands are called Chabaca and Pintigron, and that they reached in a northerly direction as far as 23½ degrees . . ."

Here we leave the trial, because that figure of 23½ degrees appears in another context at an earlier date. It was claimed to have been the northing made by Amerigo Vespucci in a voyage made in 1497! Vespucci died in 1512. His amazing series of Four Letters were compiled from a genuine voyage on which he met Cabral's fleet returning from the Indies, and a farrago of information extracted from every voyager whom he could induce to talk about the Indies. As a book they made a best-seller. It has all that Caribbean adventure stories should have: stirring events, strange native customs, verisimilitude in distances and directions, even approximate distances for the Gulf of Mexico, all before 1512. From whom did he glean his story? Probably from young Ledesma, who was reputed to be a gay youth with a liking for wine. Vespucci's circumference of 870 leagues around the Gulf and reference to 23½ degrees are near enough correct, but the story of the imaginary voyage which *he* gives is written so well that from all the battles and excitements there is no single detail about the natives which can be checked, and yet we might still believe it true.

Taken all in all it seems that the map of 1511 can only have been derived from the chart made by Pinzon and Solis after their voyage of 1508; that they were the discoverers of Yucatan and had some idea of the size and shape of the Gulf of Mexico. That clears up a little bit of history. . . But did they land? Is there any truth behind Vespucci's fantasy of battles with the natives? Those place-names Chabaca and Pintigron ring true. This was the country of the highly civilized Maya Indians, and in Northern Yucatan there *were* two towns named Chauaca and Dzidzantun in the provinces of Ecab and Ah Kin Chel. In fact the Maya record, *The Chronicle of Tizimin*, says that the first Spaniards (the "men who ate Pond Apples") landed in the Province of Ecab and captured a great man named Nacom Balam. Are these people, who shocked the Maya by being so crazy that they ate pig-food, really our navigators and mapmakers, Pinzon and Solis? There is pretty good evidence that they were.

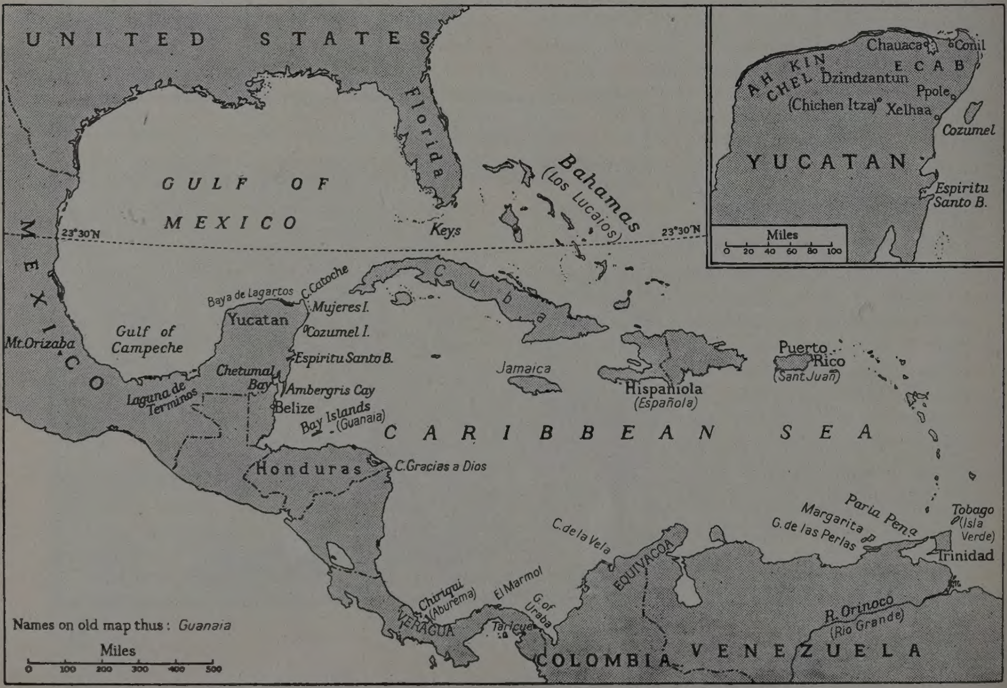
The record is preserved, and hidden, in Peter Martyr's second edition of the *Decades of the New World*. The map, strangely enough, is not repeated in this edition. Peter Martyr was the most careful of writers, he personally interviewed the Captains as they came in from the Indies, and wrote down his impres-

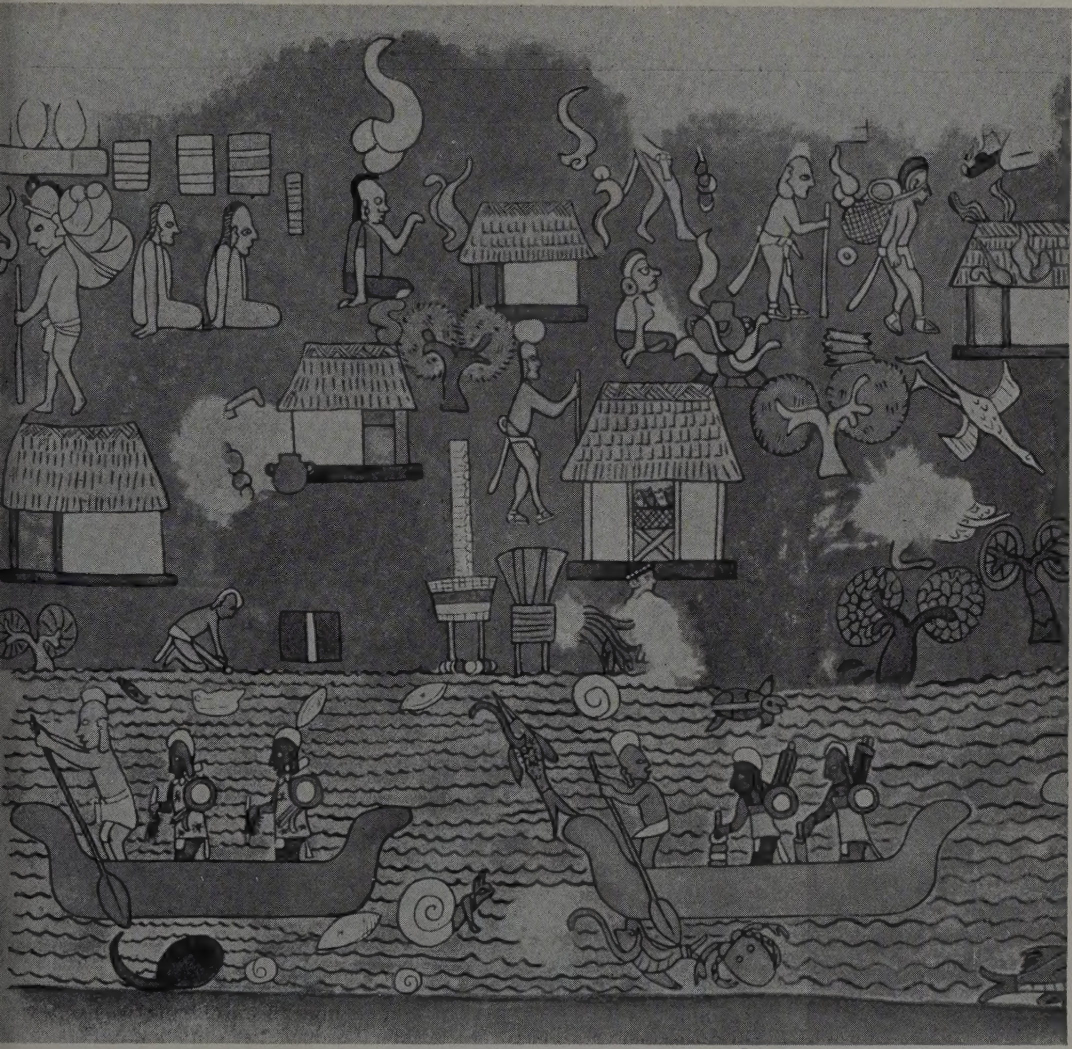
A woodcut, first printed in 1565, from details given by Benzoni who in 1541 visited Paria, the region to which Peter Martyr's readers were misdirected in the itinerary that Pinzon and Solis gave him of their voyage. It shows a chief's wife bringing food to the Spaniards, and illustrates the nudity then characteristic of Parian tribes. The network of black paint with which she is covered is like the design on many figurines found by archaeologists in that area



British Museum

(Above) *Printed in 1511 in Peter Martyr's* Decades of the New World, *this map provides a clue to the fact that Yucatan had been reached by Pinzon and Solis nine years before 1517, its official date of discovery.* (Below) *A modern map with, in hair-line, the places mentioned on the old map. The inset shows the Maya towns and provinces in Yucatan which can be identified from the account given to Peter Martyr by Pinzon*





By courtesy of the Carnegie Institution of Washington

This representation of a Maya coastal village of the 14th century, reconstructed from wall-paintings in the Temple of the Warriors at Chichen Itza, Yucatan, shows the advanced state of civilization reached by the Mayas in pre-Columbian times. The native costume resembles that described by Pinzon and Solis: in the foreground warriors in canoes wear quilted war-coats, whilst at upper left three seated women wear long garments. The symbols above their heads denote bundles of cloth. Flames from a nearby battlefield are shown at the top. At upper right a trader is travelling with a hamper marked by a circle below it as containing jewels. At the edge of the sea a woman is grinding the staple crop, maize; like the lady with the cooking-pot, she is of low class and wears no shirt. The houses have thick straw roofs and walls of plastered wattle. Fish are being dried in baskets in houses or down on the shore sions as soon as possible. In the matter of Pinzon and Solis, however, he seems to have been misled. Maybe Vincente Yañez Pinzon was the informant, and did not wish to disclose the whereabouts of a land rich in incense and gold, the richest land yet seen in the Indies. The behaviour of the Pinzons towards Columbus leads one to suspect that they were not above a little deceit for the sake of personal profit even if it meant hoodwinking the King himself. Be that as it may, Martyr was given an itinerary of the voyage which took it away from the Bay Islands in exactly the wrong direction, placing Chabaca and Pintigron in the Paria Peninsula, behind Trinidad. If it were not for Cromberger's map there would be no reason to look up Peter Martyr's description from the historical viewpoint. The anthropologist is at once struck, however, by Peter Martyr's description of civilized people in a land where all the other descriptions place savages wearing a little apron as large as a handkerchief, or naked, as drawn by Benzoni. But his description fits the natives of Yucatan excellently, and the names of chiefs turn out to be the names of Maya towns, one of them being *very* probably the personage Nacom Balam of the Tizimin Chronicle.

Here then is a brief account of what Peter Martyr heard from Pinzon:

In 1508 Vincente Yañez Pinzon proved Cuba to be an island, then turned south-west and came to the Bay Islands, which he knew from the Columbus voyage of 1502. He then cruised northwards. (From our map we know that he made careful note of Chetumal Bay and Ambergris Cay. He passed Espiritu Santo and came to the shallows about Cozumel.) It was after this that he encountered a flotilla of war canoes. The warriors assailed the ships with darts, which did no damage, and Pinzon fired his cannon. There was immediate panic, and the Spaniards in the ship's boats captured and slew many of the Indian warriors.

Many natives appeared on the shore making signs of submission. A landing was made, and by some means of sign language, for neither side could understand the other's words, they learnt that these people elected chiefs called *Chiaccones* for one year (these were the annually-chosen Maya war chiefs called *Nacoms*). These chiefs sent their spokesmen with gifts: 3000 small weights of gold, a great wooden case of frankincense (this was *copal*) and a great number of turkeys, both cocks and hens, dead and alive, which the Spaniards thought might be profitably bred in Spain. There were also gifts of cotton mantles of various kinds, with strange and prettily-coloured patterns embroidered on them, some being fringed with little golden bells. As for talking parrots . . . well, there were as many as anyone liked to carry away. (This again is a typical Maya gift-ceremony for an acknowledged overlord.)

The natives wore cotton dresses, the women being covered to the calf of the leg, the men to the knee. The design was simple ("like the Turks' ") but the men also wore double-quilted cotton shirts (war shirts, proof against spears and darts). All along the shores of this land the visitors saw an almost continuous line of villages.

During the visit, hospitality was received from five notable chiefs: their names are given:—Chiaconus Chiauacca (the Nacom of Chauaca), Chiaconus Pintignanus (the Nacom of (?) Dzidzantun), Chiaconus Camailaba (the Nacom of Xelhaa, on the mainland behind Cozumel), Chiaconus Bolomus (our old acquaintance the great man of the Tizimin Chronicle, Nacom Balam who lived at Conil) and Chiaconus Pot (possibly the Nacom of the town of Ppole, on the mainland behind Cozumel). All these towns except Dzidzantun are in the old Maya province of Ecab.

After these contacts, Solis and Pinzon continued along towards "the Oriental Regions", passing many places desolated by floods and with large lagoons (possibly the Laguna de Terminos), and then followed along the land to its cape. The mountains of Caria which they saw on the way were probably Orizaba in "*Culhua* Mexico" and the coastal ranges. Ledesma's 23½ degrees and Vespucci's 870 leagues suggest that they were near enough to shore to get a good idea of the shape and size of the Gulf of Mexico.

Well, that is where our map has taken us: to strange lands and on an obscure voyage, which turns out to have been the first important contact between the white men and the civilized Maya Indians of Yucatan. It is confirmed from native sources as well as Spanish, and places the date of discovery definitely in 1508, which throws some light on the difficult question of the correlation of Maya records with our Christian calendar.

The old map has indeed been a friend to the arm-chair explorer. The copy in the British Museum also holds something of excitement . . . the first owner, in a 16th-century hand, has filled a gap with a ring, above Trinidad, and inscribed it "Insula Canibalium": the Cannibal Islands. So our search for romance as well as history does not go unrewarded.